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ORIGINAL ARTICLES.

SOME FACTS ABOUT DIPHTHERIA.

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If the paralysis which comes on after the diphtheritic membrane has left the throat, can properly be called post-diphtheritic, then the peculiar characteristic pulse which can be observed before the membrane appears, can with equal propriety be called pre-diphtheritic. This pulse can sometimes be observed twenty-four or more hours before there is any appearance of the membrane, and it is always followed by the deposit, unless vigorous anti-diphtheria treatment is instituted. If this is commenced sufficiently early, the disease can in many cases be aborted.

It ought not to be very difficult for one who places a good deal of reliance on the pulse in making diagnosis, to detect the diphtheritic pulse, and when he has become familiar with it, the doctor will place as much reliance on it in making a diagnosis, as he does on the eruption in diagnosing scarlet fever.

It is less well marked in very young children than in those who are older. Why this is so I do not know. At one time I was disposed to refer it to the degree of brain development, but have occasionally seen it as well marked in children of four and five years, as in older persons.

I recall the case of an unusually bright and active two-year-old child, who did not seem ill, but was perfectly listless and had no appetite. The circulation was little if at all accelerated, and the temperature varied less than one degree from normal. It was not known that the child had been exposed to diphtheria, and though the pulse was suspiciously like pre-diphtheritic, it was not sufficiently so as to be diagnostic. Under the circumstances, no medicine was given, but the throat was examined every few hours. After watching for thirty-six hours, I was satisfied, but not at all gratified, at seeing three or four pinhead-sized points of diphtheritic deposit in the throat. That it was true diphtheria was almost proven by the fact, that before the baby was discharged, all who had anything to do in caring for it, except the doctor, had the disease.

What occurs is just what reason teaches us we should expect would occur. The earliest deviation of the pulse from the normal can only be

caused by the absorbed poison acting on the nerve centres. As the disease continues, the amount of poison in the circulation increases, and the deposit in the throat appears. Then, or soon thereafter, another purturbing element is added, viz.: fatty degeneration of the heart-muscle, and soon we have a pulse with quite distinct characteristics, and which is, generally, believed to demand the administration of alcohol.

Bacteriologists have demonstrated that the bacillus may be found in the throat before the membrane appears. It would be well if they would broaden the scope of their investigations, and if it should be found that the bacillus always preceded and accompanied the pre-diphtheritic pulse, it would go far to prove (what is believed, but not yet demonstrated) that the bacillus is the cause of diphtheria. If, on the other hand, it should be found that the pre-diphtheritic pulse always, or generally, preceded the bacillus, then the presumption would be that it was not the cause, or, at least, not the sole cause of diphtheria.

If the administration of alcohol could be beneficial in the treatment of this disease, it would best be shown when administered in the stage of the pre-diphtheritic pulse, *i. e.* before the membrane appears. But in neither small nor large doses, will alcohol prevent or delay the appearance of the disease. It does not in any manner antagonize the poison. So well is this now known that the last advocate of this method of treatment was silenced, or converted, a full generation ago, and now alcohol is only prescribed after more or less of the peculiar fatty degeneration of the heart-muscle has occurred.

What result does alcohol produce in this stage? Just what we ought to expect. It is an anæsthetic, and when a certain degree of anæsthesia has been produced, the respiratory and circulatory centres cease to feel, or rather take less note of the depression caused by the poison, and as a consequence the cutaneous capillaries dilate, the body surface becomes cooler, and the degenerated heart does more work. All of which may look very well on paper, but all of which means an increased expenditure of vital force in the present or in the near future. Sometimes the heart bears the added strain, and the patient recovers apparently uninjured. In other cases, the patient lives, but for the balance of his life carries a permanently weakened heart. All too often, that conveniently elastic blanket, "heart failure," covers the doctor's sin. No judicious doctor attempts to control the circulation in acute Bright's disease with alcohol. Why then try to do so in diphtheria, where albuminuria is the rule, and its absence the exception?

During an epidemic some cases of nearly the same age, and of apparently equal severity, were treated alike, except that one set received alcohol and the other did not. It was invariably found that those receiving alcohol passed more albumen, and for a longer time, than those who did not. Besides the alcohol cases showed a higher per cent. of paralysis, and the paralyses were more extensive and more prolonged than were they among the non-alcoholic cases. So marked were these two points that, for fifteen years I totally abandoned the use of alcohol in the treatment of diphtheria. But the wise and great men of two continents iterated and reiterated the assertion that it was absolutely necessary and great success impossible without it. Then one whom all English speaking doctors delight to honor, declared that should he withhold alcohol when the heart began to fail, he "would be guilty of, at least, criminal negligence." Now I have always had a sort of holy horror of professional criminality, and though I had certainly been fully as successful as the foremost of my acquaintances; still some of my patients would die. It matters not how successful a doctor may have been, he always wishes for greater success. I seriously asked myself whether the lesson had not been mislearned, and against my own judgment, (may God forgive me!) I again tried alcohol. The loss of more than one patient whom I had fully expected would recover, convinced me that the lesson had *not* been mislearned.

But many will say, alcohol should not be given for its effect on the brain, the heart, or the kidneys, but for its general sustaining power which is demonstrated by its retarding tissue change.

Admitting the claim to be valid, is it a good and sufficient reason why we should use it in this disease? As before stated, it can in no manner antagonize the diphtheria poison, nor is it in any sense a heart tonic. Remember that every drop of fluid in the system, and every fibre in the body is saturated with a subtle poison, which nothing weaker than horse's serum can pull out, (and it is a question whether this can do it,) and shall we rely on a drug whose highest recommendation is, that it retards tissue change, the only possible way by which it can be got out of the system. Remember, also, that the respiratory and circulatory centres are already carrying a dangerous load; that in the heart has already commenced that degeneration which if unchecked will soon render it incapable of sustaining the circulation; and that the kidneys are already past the danger line toward a fatal issue. And shall we rely on a drug whose action on the brain is, first to anesthetize the respiratory centre, and if carried further to paralyze it; whose action on the kidneys is first, last and all the time, to intensify that diseased condition which already threatens the life of the patient; and whose remote effect on the heart is to cause a degeneration like to, if not the same as the one for which we wish a remedy?

If there is any science in that sort of treatment it must be the science of faith, "The substance of things *hoped* for, the evidence of things not seen." It certainly is not the science of common sense. The total abandonment of the use of alcohol in treating diphtheria; the early judicious use of belladonna for its primary effect on the respiratory centre, and its remoter action on the throat, whereby the absorption of the poison is materially interfered with; together with the use of strychnine for its primary action on the circulatory centre, and also for its action as an heart tonic; with other treatment based on the common sense observation of what *is*, rather than on the science of faith or the theory of what ought to be, would result in a large reduction of the number, the extent, and the duration of diphtheritic paralyses, and would materially decrease the mortality of this fearfully fatal disease.

Let no doctor lay the flattering unction to his soul, that, when armed with an hypodermic syringe and supplied with anti-toxine, he will be complete matser of the situation. In spite of this formidable equipment, there will still be membraneous sore throats that call into use all the brains with which nature has blessed him, and all the skill he can acquire to avert a fatal termination.

SCARLET FEVER.

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The pathological condition that characterizes scarlet fever as a disease, I think is not clearly understood at the present day. In looking over different text-books, one feels that the diseased condition that maintains in this complaint, is very vaguely and unsatisfactorily described. And too, in following up the different discussions which from time to time appear in our medical journals, like unsatisfactory knowledge is obtained from this source.

To give a disease a rational and successful treatment, the parts affected and the morbid conditions of those parts, as well as the course run, should be well understood. In the treatment of disease our remedies will be given empirically if we do not fully understand the whole diseased condition, and medicine never will aproach near to the stability of an exact science, until the pathological condition is rightly and wholly understood.

In a period of over forty-three years, it has been my experience to have been

much brought into contact with scarlet fever, and in all of its varied forms. To be brief, I would say that it is an acute, exanthematous disease, with not only an outward eruptive manifestation, but the same eruption extends inwardly, and is wholly confined to the alimentary canal from the oral orifice to the anal outlet. The latter eruption coexists, and runs a like course with that upon the surface of the body, beginning, as on the surface, in the upper parts and progressing downward as the disease advances.

First the tongue is affected—the coating soon peeling off, leaving a red, almost raw, surface exposed. The entire buccal cavity becomes invaded, together with the throat which becomes highly inflamed; followed, shortly, by the stomach becoming irritable, vomiting showing a broken out and inflamed condition of that organ. Later on and nearing the close of the disease, there occurs diarrhœa, proving clearly a highly morbid condition of the bowels and due, I fully believe, to a morbid condition of the mucous membrane of the bowel the same as that upon the skin surface of the body.

The disease, when it runs on to a favorable termination, extends over a period of about nine days before convalescence begins. The throat naturally becomes more particularly affected, because in the act of respiration the air is drawn to and fro over the inflamed, erupted surface, thus irritating it and inflaming it more and more. So this becomes the point which gives the most suffering, and the point of greatest disease.

Measles and some other eruptive diseases confine themselves to the respiratory tract. Measles, particularly, invades all the passages concerned in respiration, as well as the lachrymal duct and the eye. This is because the mucous tissue of these parts is continuous to that of the bronchial tract. Therefore we have when the measles eruption appears on the surface of the body, a like eruptive condition on the mucous surface of the bronchial tubes, and characterized by a dry, irritative cough. And as the eruption extends up the lachrymal duct, the inflamed and watery eye appears.

On the mucous membrane of the air passages the germ of scarlet fever will not take hold, because the mucous tissue differs from that of the alimentary canal. So, aside from the external eruptive manifestation, scarlet fever is a disease confined wholly to the alimentary passage.

The contagious element of scarlet fever lies in the desquamative, bran-like scales from the surface of the body, together with the salivary secretion and the excretions of the bowels. Scarlet fever, therefore, is a disease that cannot infect by inhalation, but the very light, desquamative substance thrown off from the surface of the body may float through the air of the room and light upon some part of the person and thence be carried to the mouth. This is mainly the way it is transferred from person to person. If the salivary secretion and the bowel excretions are properly taken care of, there is no danger from this source. Therefore to prevent contagion the external surfaces of the body, in convalescents, should be carefully attended to. This may be done by some oleaginous substance applied to the entire surface of the body, thus keeping the skin in a condition so that nothing will be thrown off from it.

In the treatment of scarlet fever one very important matter should be borne in mind; never give a purgative medicine, except in the very beginning, before the eruption appears or before it reaches the stomach, when it might be proper to give a dose of calomel. The whole alimentary tract is so highly inflamed by the eruption upon the mucous membrane that an irritant purgative would be adding fuel to the flame. It is best to do but little in the way of internal treatment, knowing the disease will run a certain course, do what we may, but I do believe the disease can be wonderfully modified by pursuing a certain course of treatment—that is, the surface of the body should be greased all over, or the sponge bath should be applied frequently. These prevent the itching, allay the burning sensations and high fever, and are very grateful to the patient. The throat should receive attention; ice should be kept in the mouth, and a cold water cloth should be placed around the neck.

Scarlet fever is not a very contagious disease because it is not inhaled, as I have already said, but it is well to be careful for it is a germ disease. The room will not be infected if the person of the patient be well attended to, and there will be but little danger to others visiting the sick room, if inunction is done before desquamation begins.

The foregoing is the view I have held of the disease after many years of observation. I think by a careful examination of each case, we will find the symptoms clearly point to an internal eruption co-existing with the external.

The most prominent symptom of scarlet fever is the very high pulse, higher perhaps, than in any other disease. This will be readily understood when we consider the great extent of the lesion, and, too, that the parts affected are almost denuded of their natural covering in this disease, from the peculiar kind of eruption.

Having a clear knowledge of the pathology of the disease, the treatment must readily suggest itself. I repeat, cooling and calming remedies should be used, both externally and internally. To the almost raw surface, the air is a very great irritant, therefore emollient, greasy applications to the external surface to protect this part. Internally, cold, with mucilagenous drinks, will greatly soothe the parts in like manner. A little good common sense is all that is needed in the treatment when we understand the morbid nature of the disease.

COMMUNICATIONS.

CIRRHOSIS OF THE LIVER IN CHILDHOOD.*

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In the present communication, it is our desire to further study the case which formed the basis of a paper on the subject of hepatic cirrhosis in children that appeared in the *Archives of Pediatrics*, July, 1890. We desire, also to present the results of post-mortem examination in this case, and more particularly to consider the etiological factors in the production of cirrhosis of the liver in childhood.

The child came under my observation in June, 1888, and died in my private hospital September 24th, 1890, age 12 years and 4 months. Two months after, the clinical notes were recorded in the *Archives*. The disease pursued about the usual course as seen in the adult: Gastric disturbances, coated tongue and foul breath, abdominal pain slightly augmented by pressure, occasional nose bleed, stigmata composed of collections of dilated minute venules, constipation alternating with diarrhœa, headache, dry harsh skin, some side pain, marked jaundice, lassitude, languor, and drowsiness. Thirty days before death, ascites arose. In twenty days the belly became enormously distended with serum. The legs were œdematous, the veins of the breast and abdomen were greatly distended. The pulse was 120, respiration 30, temperature 38° C. The urine contained a small amount of albumin and a few granular tube casts. Total quantity passed in twenty-four hours, 500 c. c.

September 13th, 1890, I performed paracentesis abdominis and withdrew four and one-half litres of clear fluid. For twenty-four hours there was a free drainage of clear serum from the puncture; the next day it decreased to almost nothing.

The child became drowsy and complained of abdominal distress and pain. The original puncture in the abdominal wall was enlarged and a rubber drain inserted. At once 1,000 c. c. of fluid

* Abstract of reprint from *Archives of Pediatrics.*

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drained away. This fluid, however, was no longer clear serum, but contained some pus. Slight improvement was noted in the child's general condition; the temperature remained lower, the pulse below 100, and the respiration below 20. This gain was, however, of short duration. The urine became scant, high colored and bile stained, and was voided with difficulty. The child progressively grew weaker, hiccough became worse, the temperature subnormal, and the pulse extremely irregular. The urinary excretion was almost suppressed, and finally, on the evening of the 23d, convulsions arose, which presisted until death on the 24th. These convulsions were most severe, clonic in nature, and lasted for fifteen or twenty minutes, with only short intervals between. Death occured in one of these spasms.

Autopsy six hours after death. Child much emaciated; several petechial spots over thighs, legs, and chest. Thorax: heart small cavities dilated and contained clots; valves normal, aorta healthy; muscles slightly fibroid; lungs and pleuræ healthy. Abdomen: peritoneum thickened, and venous channels greatly dilated; stomach mucous membrane thickened and slightly ecchymotic, spleen presented a normal appearance, with the exception of intense congestion and consequent increase in size.

The liver weighs 665 grams, and is a remarkable example of atrophic cirrhosis.

The gall bladder was comparatively normal, its mucous membrane slightly thickened contained a small amount of bile, but no calculi.

The kidneys were large, swollen, congested, and hyperæmic. Miscroscopic study classes them as examples of parenchymatous nephritis becoming transposed to a condition of interstitial nephritis.

The rectum and bladder were not deceased. The intestines were normal, with the exception of the vermiform appendix, which was gangrenous from its terminal extremity almost to its origin in the cæcum. There was, however, no loss of structure or perforation. It contained no concretions or fecal matter.

I was unable to exactly determine why this gangrenous condition existed. Had the child survived a few days longer, perforation would undoubtly have occurred. The condition of the appendix may possibly be explained by the anatomy of the part.

The mesentery of the appendix is derived from the inferior layer of the mosoentery of the ileum, and is short, ending usually at about the centre of the appendix, or, at most, at the junction of its middle and terminal third.

There is another structure, which Treve states is the remains of the true mesentery of the appendix. It takes its origin from that part of the ileum most remote from its mesenteric attachment, and is united with the mesentery of the appendix. This peritoneal fold does not carry any blood supply to the appendix, which as a rule, derives its blood supply from but a single vessel, a branch of the ileo-colic.

These anatomical facts would appear to offer an explanation of the condition of the appendix in this case. The enormous quantity of peritoneal fluid, the distention of the cæcum, head of the colon, or ileum, with gas, and the interruption of intestinal peristalsis from fluid pressure, would cause dragging on the already too short mesentery of the appendix. In this way, we would have a material interference with the blood supply, and per consequence, an exciting causative factor of the condition found post-mortem. White (*Therap. Gaz.*, June 15, 1894), considers that the anatomical condition completely explains well-known types of appendicular disease.

It is somewhat remarkable that life could be sustained with such an important organ as the liver in the advanced state of disease shown by the specimen. The liver was practically converted into a mass of fibrous tissue.

Since the appearance of Howard's paper and my first communication, the subject of infantile cirrhosis has received more attention, and its problems are quite well worked out. Nor can the affection any longer be considered rare, for writers now constantly are recording their observations in this disease.

We briefly review the progress since 1890. The recent writings have shown us that the natural history of cirrhosis of the liver in childhood does not differ

from that of the same disease in the adult. Its cause, clinical symptoms, diagnosis and prognosis are identical.

Alcoholism seems to have the same relation to the disease in early life as in the cirrhosis of adolesence or of advanced age.

The relation of the eruptive fevers of childhood to the production of cirrhosis, was dwelt upon in my first communication. Further study and a careful review of the literature, prompts me to reiterate those statements, and to lay great stress upon the relation that a marked attack of any of the eruptive fevers has to the production of the disease. This relationship was clear in the case which presents the specimen under consideration. Other writers have recorded similar observations and particularly is this the conclusion of the Thesis of Porembski, "Contribution a L'etude des Cirrhosis Hepatiques ches les Enfants." Paris, 1891.

In Stack's* twenty cases at St. Bartholomew's Hospital and the Hospital for Sick Children, London, occurring in children under twelve years of age, averaging five years, there was no evidence that alcohol, syphilis or rickets was either directly or indirectly the cause; but, on the other hand, seven of the cases had suffered from scarlatina. In five, the symptoms of cirrhosis were decided to have dated definitely from the attack of scarlet fever. Six cases had measles, but the relation between the causative effect of this exanthema and cirrhosis, was not as clear as in those who had scarlatina. Acute nephritis was coincident in some instances. Jollye reports two fatal cases (*Brit. Med. J.*, Apr. 23, 1892, *Am. J. Med. Sci.*, Oct., 1892), brother and sister, aged ten and eleven, who had both previously suffered from measles. Ormerod (St. Bartholomew's Hospital Reports, Vol. xxvi, 1890), reports a remarkable case of cirrhosis of the liver in a boy, with obscure and fatal nervous symptoms. The child was aged ten. The post-mortem showed lesions in the brain and advanced hepatic cirrhosis. Vertical sections through the brain showed at the level of the optic commissure a small patch of softening, involving the outer layer of the left lenticular nucleus. The section, one and one-half inches further forward (pediculo-frontal), and the section behind) through anterior border of pons, the parietal section), no longer showed this softened patch. Some tiny patches of softening occurred in the upper part of the pons. No disease of the cortex cerebri or the cortex cerebelli. Ormerod refers to other cases in the literature, which presented the same peculiar and fatal nervous symptoms with post-mortem evidence of advanced hepatic cirrhosis and slight lesions in the nervous system.

The writer thinks that the Germans have presented evidences, which make it probable that the softening in the neighborhood of the lenticular nuclei had some essential connection with the disease. Gowers' case of cirrhosis of the liver presented symptoms intermediate between those of chorea and tetany, but no lesion was found in the nervous system after death. Tordeus (*Jour. de Med. de Chir. et de pha. Bruxelles*, I have not seen the original), reports a case in a boy of nine years, in which no predisposing or exciting cause could be found.

Some late writers have considered hepatic cirrhosis as infectious in its origin. Neumann (*Deuts. Med. Zeit*,, Berlin, March 23, '93 [Cohen]) reports a case of congenital hepatic cirrhosis, probably dependent upon syphilis. Death occurred at four months of age. Hausemann, (*Wien. Klin. Wochenschrift*, May 8, '93,) referred to by the same reviewer, also reports a congenital case. D'Espine (*Sajou's Annual*, c. 45, Vol. I, 1894,) records a case of cirrhosis of the liver in a boy who came under observation at the age of six years, and was observed for three years. Jaundice or albuminuria never occurred. Ascites was present for two years; repeated right-sided pleural effusions. Necropsy showed extensive fibroid changes and adherions of peritoneum and viscera, perihepatitis, perisplenitis and enlargement of spleen. The liver exhibited evidences of an intense, interstitial, periportal hepatitis. Bouchard, in commenting on the case, combatted the idea that infantile cirrhosis was due to syphilis.

Jollye (*ibid.*) remarks that the habit of the inordinate consumption of vinegar by the two children under his care

* *Am. J. Med. Sci.*, Vol. civ., No. iv., p. 501.

had, in his opinion, much to do with the production of the cirrhosis. The vinegar, lessening gastric secretion, interfered with digestion and allowed the formation of albuminoses and allied bodies, and by absorption into the portal system, set up a hyperplasia of the connective tissue in the liver.

Stack (*ibid.*) formulates the following conclusions:—"That alcohol syphilis, tuberculosis and malaria, account for 50 per cent. of the cases; the other most frequent cause being probably the exanthemata and errors in diet.

"That acute interstitial hepatitis is frequently found, microscopically, after the infectious fevers, especially after measles and scarlet fever; but the part played by the disease, alcohol, and diet, respectively, in those cases which afterward become examples of cirrhosis, is an open question; as is also the reason why some livers are affected with the hypertrophic and others with the simple form.

"That some cases are part of a general disease, due to some poison gaining admission to the general circulation, and especially attacking the liver owing to the slow circulation in the hepatic capillaries. Just as, no doubt, acute yellow atrophy is a general disease, the chief pathological change found *post-mortem* having caused it to be classified amongst the disease of the liver."

Brown's interesting case, with careful post-mortem records (*Arch. Pediat.*, Vol. X., No. 1., 1893, p. 48,) of a boy aged nine years and nine months, seems to have been due entirely to dietetic excesses.

Ghosh (*Indian Med. Gaz.*, January, 1891; *Am. J. Med. Sc.*, May, 1891), in reporting casses in children under two and a half years of age of cirrhosis that almost invariably terminated fatally in from three to twelve months, proposes as the only etiological element a faulty diet.

Osler states that in the cirrhosis of early life, excluding the alcoholic and syphilitic cases, the acute infectious diseases are probably the important antecedents.

The more recent papers of the year just closed are as follows:

Blagoveschenski, A. N. "Atrophic Cirrhosis of the Liver in a Child of Ten Years." (*Trudi Obst. dietsk, Vrach.*, Mosk., 1894, 11,129.)

Mirinescu. "Cirrhose Hypertrophique avec ictére Chronique Chez un Garcon de 14 Ans." (*Rev. Mens. d. Mal. de l'Enf.* Paris, 1894, xii., 560–567.)

Sainsbury, H. "Alcoholic Cirrhosis of Liver in a Child; Ascites; Meningitis; Death; Necropsy." (*Lancet*, London, 1894, 1, 147.)

Penrose, F. "Cirrhosed Liver from a Youth Aged Sixteen." (*Tr. Path. Soc.*, London, 1892-93, xliv., 1893.)

Clarke, J. M. "Remarks on Cirrhosis of the Liver, with Especial Reference to its Occurrence in Children, and to the Mode of Death in Cirrhosis with Jaundice." (*Brit. M. J.*, London, 1894, 1, 1407–1412.)

Treatment of Mumps.

During a recent epidemic of mumps among soldiers, Dr. A. Martin successfully resorted to the following treatment: From the outset he instituted buccal antisepsis, which, when rigorously done, according to his observations, diminishes the chances of testicular complication. He, therefore, had his patients gargle and cleanse the mouth as often as possible with solutions of thymol, carbolic acid or very hot four per cent. boric acid solution. Besides, during the first days of the disease he administered antipyrin in daily doses of 2-3 grammes (30-45 grs.). This, he states, more rapidly effects the resolution of the inflammatory process than do sodium salicylate and other remedies; moreover, it acts more promptly on the fever and pain. In orchitis caused by mumps, pilocarpin subcutaneously in doses of 1 centi-gramme (1-6 gr.), repeated once daily, is said to have promptly diminished the pain from the first evening on, and to have lowered the temperature, which became normal on the third day. The swelling of the testicle disappeared between the eighth and tenth days. After the acute period of orchitis was passed, the patient was submitted to a tonic treatment (cod liver oil, nux vomica, cinchona extract, meat powder, sulphur baths, etc.) for the purpose of preventing testicular atrophy. —*Sem. Med.*

WHAT SHALL BE DONE WITH THE "HOMICIDAL CRANK"?*

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A year or two ago a man about fifty years of age came into my office and asked me whether I understood hypnotism. When I told him that I had made some study of the subject, he asked me to remove a "hypnotic spell" which was upon him. He went on to say that he was constantly kept under hypnotic influence by a certain man who lived in the same village in which he resided. He stated that a couple of years previously he first became aware of a certain malign influence exerted over him by hearing, while working at his trade (that of a barber) voices which accused him of incompetence and certain crimes and misdemeanors. These voices, heard rather infrequently at first, visited him oftener as time passed on. He grew to believe that his secret thoughts were read; that all lack of success and mishaps and accidents of various kinds were due to some evil influence which was exerted over him. He told his wife and friends of this malign power to which he then believed he was constantly subjected, and when they would not agree with him in his ideas, conceived the belief that they, too, were dominated by the same evil influence which had rendered him powerless. He said that he was compelled to give up his trade because the evil person who now governed his every thought and action prevented him from shaving properly or indeed doing anything correctly. He come to believe, shortly before coming to see me, that the evil influence dominating his whole life was exerted through hypnotism, and then naturally cast about to find the author of this strange and marvelous influence. He thought of several persons, and at first could not be sure which was the one on whom he should blame his troubles. But at the time he had called on me he was quite sure he had found the real author of all his misery. He named the person to me, and with flashing eye and angry expression denounced him soundly. He declared that even at the very time he was talking to me he could hear his persecutor distinctly speaking in his ear, saying that I could not in the least help him, and casting reproaches on me.

My explanation to him that all these ideas were vagaries of the mind brought about by the illness from which he was suffering, was, as you may readily suppose, not received.

I engaged him in conversation on indifferent subjects, and found that he was rational and intelligent when talking of these matters. I subsequently exhibited the man before the Pittsburg Academy of Medicine when the symptoms I have outlined were exhibited, for he was quite ready to converse.

When he had left the office, I at once wrote to his wife to call upon me, which she did some few days later. I urged her as strongly as possible to place her husband in an asylum at once, as he was a very dangerous man and might at any time attempt to kill the man whom he believed was keeping him constantly under hypnotic influence. She refused to do this because her husband was "so sensible" in many ways. She doubted whether his "peculiar ideas" were enough to constitute insanity. The man came back several times, each time telling the same story. He, however, became convinced that I was unable to remove the hypnotic spell which was upon him, but sought my aid in helping him to have his Svengali arrested and placed in prison. He said that he wished to act within the law, but that if he failed in this, he might be constrained to take the law in his own hands.

Seeing that his wife was unwilling to act, I then, with the approval and advice of several fellows of the academy, wrote a short statement of the case to the burgess of the town in which he lived, strongly urging that steps be taken promptly to place the man in an asylum. So far as I knew, this has never been done.

*Read before the Allegheny County (Pa.) Medical Society, May 28, 1895.

While it is true that this man may never attempt homicide, I believe you will all agree with me, that with the delusions and hallucinations he possesses, he is a great source of danger while at liberty to go about as he pleases. I have purposely related this case at some length as it is an excellent type of many so-called "homicidal cranks," and illustrates well some difficulties encountered in dealing with them.

This man's wife regarded him as "peculiar," but not insane. Yet the possession of those very reasoning powers which made his wife hold that he was not insane, rendered him, with the delusions and hallucinations he possessed, all the more dangerous. The old idea among the laity that to constitute insanity there must be great emotional disturbance or entire dethronement of reasoning faculties, still largely prevails. So it happens that friends of the chronic delusional lunatic or paranoiac, who constitute most frequently the "homicidal crank" are unwilling, as in the instance cited, to have him detained in an asylum. But they are often willing to have him so committed after he has killed someone and an indignant community are demanding that the death sentence be passed upon him.

Last summer a mechanic somewhat past middle age was admitted to St. Francis' Hospital, not so much because he was insane as because it was feared he would commit murder. In my first interview with him, I was, as is often the case, unable to discover any evidence of insanity. Before seeing him again I learned of delusions he entertained, and was, at my second visit, easily able to learn the character of his insanity. For some months past he had believed that his wife was unfaithful. He stayed home from work frequently to watch her, but even then he was convinced that she carried on illicit relations with different men.

Every man who came into the house for any purpose was suspected. He stated that as many as six men had intercourse with his wife in a single night, and moreover affirmed that his own daughters shielded her in her infidelity and kept a large 'black monkey about the house which in some way assisted them. It was noticed shortly before the unfortunate man was brought to the hospital that he had put in repair and loaded an old pistol which was about the house, and in speaking to me afterwards he said it had been his intention to shoot some man when he was quite sure of his guilt. This action very properly determined the family to place the unhappy man in the hospital.

Here we have a case of paranoia, another type of the "homicidal crank." I think it will be readily conceded he might easily commit homicide.

Another type of paranoia is that characterized by great exultation of the ego, together with delusions of persecution. Here the subject wishes to lead the nation, reform a great city, create a new religion, offer an easy plan for the settlement of political difficulties, etc. Finding, of course, difficulties in attaining his end, he logically sets about to ascertain the obstruction, and this he often finds to be some individual of great prominence. Frequently his attention is called to the individual who stands in the way of his own greatness, and the success of a great cause by some public discussion or dispute in the newspapers, which brings the said individual into great prominence. Thus Guiteau thought to unify a great party by killing President Garfield; Berkman sought to simplify the labor trouble by attempting to kill Chairman Frick; while Prendergast believed he would cleanse and promote the progress of Chicago by killing Mayor Harrison. At some time or other attempts on the lives of most European sovereigns have been attempted by the "homicidal crank." Indeed, it may be said of him, as of death, that he loves a "shining mark."

What is to be done with him? The question may be divided into two parts.

1. Before he has attempted or committed homicide?

2. After he has attempted or committed homicide?

The first of these two questions presents the greater difficulties. In the first place, not all so-called "cranks" are homicidal. Indeed, many of them, I believe, may be safely let at large undisturbed. But, in general, I should say that those who entertain systematized delusions of suspicion or persecution,

especially in connection with exaggerated ideas of self importance, ought to be under restraint. How and by whom is this class to be sought out, and by what legal process restrained? These are the vital questions in connection with the matter. Obviously, it would be impracticable for the authorities to appoint special examiners to go about seeking out the "cranks" in the community. But it seems to me that much could be done by members of our profession to educate the public to some intelligent understanding of the dangers to which society, particularly some prominent individuals in the same are ever subject to, while certain of these "cranks" remain at large. Many of them are brought to the physician's notice in some way or other, and in that large conception of our professional duties which clearly points that ministering to those actually sick, mentally or physically, does not by any means comprise our whole duty, but that it belongs to us to go farther, and warn families and the public generally against mental and physical harm which may be threatening. With a clear understanding of the nature of these cases of chronic, delusional, alcoholic, epileptic, and other insanities, which may bring forth the homicidal crank, and with this broader view of our relations and duties to society, the physicians may do much to lessen the number of murders by "homicidal cranks" at large. Nor should we be discouraged if our efforts sometimes prove futile. In the first case I have reported, looking upon my duty to the public as of paramount importance, and in my unsuccessful efforts to get the man in an asylum, beyond the reach of harming anyone, I revealed so much of professional confidence as seemed to me might be necessary to accomplish that purpose. It is very probable, however, that in reality I revealed nothing that was not already well known. But I could easily conceive of cases which might arise, where, in the discharge of his duty to the public, the physician might be called upon to reveal much of a private nature. In delicate or doubtful cases, however, he should seek counsel before doing so.

I believe that persons who, by their actions, seem to be mentally deranged and seek interviews at the White House, with the various governors and prominent individuals, and who haunt our courts and other bodies, should promptly be arrested and examined by competent physicians as to their mental condition.

If, after such examination, they are shown to be "cranks" of dangerous tendencies, they should by some appropriate legal process be remanded to an asylum. I believe this matter should be taken up and pushed vigorously. At very short intervals the newspapers furnish accounts of the doings of the "crank" at the White House. Unless he commits some overt act, I believe he is not arrested, nor are efforts made to institute any legal inquiries as to his sanity. While many of these "cranks" are doubtless harmless, one must believe that some would under certain circumstances commit homicide. Extraordinary measures have been taken to protect the President during the past few years against the "crank." It seems to me that in Washington the method of inquiry I have suggested could be most profitably instituted, for the capital of the nation draws and will continue to draw large numbers of "cranks" to it, largely because their delusions of greatness take a political complexion, and the seat of the government naturally becomes a sort of Mecca for them.

After he has committed a homicide, what shall be done with the "crank?" Certainly he should not be hung. I cannot endorse the Spartan method of Dr. Wm. A. Hammond, who in the Guiteau trial held that the prisoner was insane, yet should be hung. This view, however, is, I believe, held by a large part of every community. The homicide is usually dastardly, and the "crank" makes a certain show of reason and always spurns the idea that he is insane. These facts lead very generally to a popular and to a sometimes almost unanimous demand on the part of the public for his execution, some holding that he is sane or shamming insanity, others contending that his mental operations, while abnormal, did not prevent him from knowing the enormity of his crime and the difference between right and wrong. In short, the crime has been so revolting that the public does not wish to hear of arguments which will cheat them out of a victim to

atone for the sacrifice of the slain. Both the men whose cases I have related knew right from wrong; both of them might have committed murder; and if they had, probably both would have admitted it was wrong and offered as excuse that it was necessary to protect themselves and families. What did the public gain by hanging the unfortunate paranoics, Guiteau and Prendergast? Yet both these men, too, probably knew right from wrong. Happily this antiquated and unreasonable "right and wrong" test is, in the light of a higher and better medical jurisprudence, showing signs of decay. But it still shows great vigor. Hasten the day when it shall have disappeared altogether as a sufficient standard of sanity or insanity!

If the "homicidal crank" is not to be hung, what is to be done with him? Certainly the public has the best right to demand protection from him.

This protection would be afforded by sending him to an asylum, there to remain until cured, or he might be sent for a certain terms of years (10—15—20) and as much longer as might be required for his cure. Sent in either way, he should not again be set at liberty until after examination and unanimous recommendation for release by a competent board of physicians appointed for that purpose. If this plan were adopted rigidly, most "homicidal cranks" would remain incarcerated for life after having committed murder. For my own part I should like to see capital punishment abolished altogether. This done, the plan I have advocated would possess the still further advantage that the plea of insanity would not be apt to be urged without cause when it was known that the defendant, whether sane or insane, would be incarcerated for life if it were shown that he actually committed homicide. In stating this, I do not wish to be understood as saying that the plea of insanity is to-day unduly urged. Indeed, I can endorse the position taken by Kiernan, who in a very recent article says:

"The enormous number of insane in penitentaries proves that the plea of insanity, in place of being abused, is too rarely used."

Under the circumstances I have named, attorneys would largely be relieved of the odium which now attacks to setting up the plea of insanity, with the certainty in almost every case of being accused by certain newspapers of setting up what they are pleased to call the "insanity dodge."

Treatment of Appendicitis.

At a recent meeting of the College of Physicians of Philadelphia a paper was read upon the treatment of appendicitis. Some of the best known men in the profession took part in the discussion, and altogether the facts given are of the highest value. Dr. McBirney, of New York City, stated that medical treatment of these cases is always and invariably futile, and that in many instances an attempt at such treatment places the surgeon eventually at a distinct disadvantage because of the ravages which have been produced by the disease before he has had an opportunity to operate. He did not think it necessary to empty the bowels before operating. The appendix was the source of septic infection from the very beginning of the inflammation. He urged the removal of the appendix as early as possible before the general system has become infected; preferring, however, in the majority of cases to wait 24 to 48 hours until the acute symptoms had passed before operating. He challenged any medical man present to offer a plan of treatment which could be shown to have any distinctly favorable influence upon the disease.

Dr. William Osler, of Johns Hopkins, said that too many appendices were removed. He believed that while many cases required operation many are unnecessarily operated upon. As a result of a large number of post-mortems made by him he was positive that acute appendicitis could occur with entire cure, without operative interference.

Dr. S. Wier Mitchell said that he had seen neuroses and other nervous complications follow the operations for appendicitis. He knew of cases in which the pain and discomfort in the abdomen following the operation were so excessive as to incapacitate the patient from all employment and to render the remedy worse than the disease.—*Nat. Med. Review.*

CORRESPONDENCE.

NEWS FROM ABROAD.

To the Editor of The Medical and Surgical Reporter.

Dear Sir.—The following is a copy of a personal letter I received from my friend and chief, Prof. Parvin, written at Rotterdam, Holland, on the 6th ult.

Thinking, perhaps, as it contains matters of professional interest, it might prove interesting reading to the subscribers of the Reporter, I send it herewith for publication.

Very truly,

Chas. H. Reckefus, Jr.

Dear Dr. Reckefus:—I have been in Holland now nearly five days after a slow passage across the Atlantic, the slowest I have ever had except away back in the fifties when surgeon of a sailing vessel. Thirteen days seems a long time to those who compare the passages made by such steamers as the St. Louis or the Lucania.

But as far as benefit to health is concerned a slow steamer, unless the weather is very bad. is to be preferred to a swift one. The freedom from care and anxiety, from weariness and worry, and the absence of excitement make the passage restful. So too, give me a small, rather than a large steamer; in the latter there are often cliques and coteries, the pseudo—proud and would be aristocrat, while in the former the passengers are united one not claiming superiority over the others.

There were on the Obdam, several clergymen, one of them the President of Union College, N. Y., a man whom every one greatly admired, several lawyers and doctors also were among the passengers. Dr. Rosenstein of New York City, a distinguished member of the profession and as genial a gentleman as one could wish to meet, was one of our company.

A Maryland doctor, a graduate of Heidelberg, was on his way to Berlin to study nervous diseases, and he was the only one of the medical fraternity intending to stay more than a few weeks.

I have visited Amsterdam, the Hague and Leyden, and some matters of professional interest, relating to the present and chiefly to the past, will be mentioned.

There are four medical schools in Holland, one each at Leyden, Amsterdam, Utrecht and Groningen. The one at Amsterdam is much the largest, having more than six hundred students. The reason for this superiority of number, Dr. Place, Professor of Physiology in the school, tells me is the greater clinical facilities offered, there being under control of the faculty two hospitals, one with 700 beds and the other 500.

The Holland student is required to study medicine seven years. But while the term is much longer than ours, the expense is less, the fees for each of the first four years being two hundred guldens, and for cash the last three years only one hundred.

In Amsterdam Sylvius lived for years, and there chiefly acquired his great reputation, though afterward he became Professor of Anatomy at Leyden. Here, Rembrandt, though a native of Leyden, lived and his painting of the Anatomical Demonstration, which is one of the famous pictures of the royal gallery in the Hague, was made, commemorating the kindness of Dr. Tulp to the artist. You know from the poor chromos of this picture something of the original.

The painting represents Professor Tulp demonstrating the muscles of the anterior part of the forearm. The seven others presented are members of the corporation of Amsterdam surgeons. One of them has a paper on which the names of the surgeons are written, and to this list Rembrandt has added his own name and the date 1672. The contrast between the corpse—Sir Joshua Reynolds said that the dead body is perfectly well drawn and seems to have been just washed, and that nothing can be more truly the color of dead flesh—and the glow of life and the expression

of deep interest on the part of the surgeons is very striking.

Delft, which I only passed through, is to doctors famous as having been the birthplace of Lewenhoch, who, if he were not the actual discoverer of spermatozoids, at least more fully studied and described them than any one of his age. What a ripe age he reached, 91 years!

Here are some of his statements that I have had translated from a paper printed more than two hundred years ago: "It would require 100 spermatozoa to equal the thickness of a hair; if a grain of corn were hollowed out 50,000 would find room in the space, and the sperm of one woodlouse contains more than would equal all the millions of human beings in the world."

Delft Haven is of interest as having been the place of embarkation—July 1620, I believe was the date, ship Mayflower—of the Pilgrim Fathers. Strange, by the way, the New Englanders talk so much of fathers, so little of mothers! One can readily suggest that there could nothing come of the former if the latter were omitted.

Leyden interested me chiefly because there Boerhoave lived and taught. It seems to me that medicine has given the world few greater and none better than he. His monument, with its brief inscription, scarcely more than date of birth and date of death, reveals a man of commanding appearance, and of large head, with very prominent forehead.

The arms of Leyden, which you so often meet in walking through the town, exactly follow from its own high estate in the great centre of medical teaching, are two huge crowned gules in a field argent. Something in that rare and rich book of curious learning, *The Doctor*, which, if you never read, you ought to as soon as there is a lull in obstetric work, suggests that they give to the medical graduate the power to bind and loose, and moreover to bleed and blister, to administer at discretion pills, potions and powders, and to employ the whole artillery of the pharmacopœia.

The University Library interested me chiefly from the memorable words written by a former librarian, Heinsius: "I no sooner set foot in it and fastened the door, but I shut out ambition, love, and all those vices of which idleness is the mother and ignorance the nurse; and in the very lap of eternity, among so many illustrious souls, I take my seat with so lofty a spirit that I then pity the great who know nothing of such happiness."

Of course, too, I visited the church that Conthigs had attended at Leyden, and where he fell in love with the burgomaster's daughter, to whom, however, he never spoke, and in penitence afterward exclaimed: "God forgive me! for every Sunday while she was worshipping her master I used to worship her."

The Hague is chiefly visited by admirers of pictures and palaces. I confess that in the royal palace I was not half as much pleased with the costly furniture, the great paintings, embroideries, tapestries two hundred years old, etc., as I was in the portrait of the great historian, our own Motley. The Queen, now some fifty years old, you know she never married, was a sincere friend and admirer of our countryman. In the royal gallery of pictures Rembrandt's was the most interesting.

Another picture in the gallery of interest to doctors, is one of a doctor feeling the pulse of a love-sick maiden, while her mother is looking on with great anxiety: the legend is, "What good is medicine here; it is the pain of love."

There is also here a picture, by an unknown Holland artist, of Christ taken from the Cross, in which an anatomical error is apparent, the spear wound is in the right side. I have observed the same fact in several other famous old paintings in Europe, or in engravings from them.

The Hague is of interest too to the doctor, as having been the birth place of Deventer and also of Ruysch. The former born in 1651, worked in a watchmaker's shop until seventeen years of age. His skill in making orthopedic apparatus led him to study medicine. His work upon Obstetrics was published when he was fifty years old, an illustration of mature authorship quite exceptional in our days. Think of the many books on Obstetrics or in other departments of medicine by men who are little more than half that age, pub-

lished in our country. He practiced obstetrics for forty years. His wife too, was an obstetrician.

The obstetrician recognizes him as having first recommended the knee-chest position for the replacement of the prolapsed cord. He too was the first to describe the simple flat pelvis. One thing that mars his fame is that he had a secret remedy for false labor pains.

Ruysch was born in the same country, but I believe somewhat earlier (March 23, 1638). The fame of his injections will always last. There is a story that Peter the Great, who upon the death of Ruysch, bought his collections, finding among the objects the corpse of a child that seemed so life-like, and was apparently smiling to him, he stooped down and kissed it.

Peter the Great not only learned ship building in Holland, but took the deepest interest in Science. For example, in addition to the purchase just mentioned, he had Lewenhock show him the wondrous revelations made by his microscope.

I might have written you more of the present—of the weather, the rain is so frequent that I almost believe the Hollander was meant to be amphibian; of the canals in all the cities that I have visited; of the country with its vast stretches of green meadows, the same not limited by disfiguring fences; then meadows, showing frequently herds of cows which almost any American dairyman would be likely to covet. I might have written of the Holland women, so strong and active, with their large waists, and some of them with the quaintest caps and gold ornaments upon their heads.

I cannot say that Holland women approach in beauty American women; I cannot say that ladies walk gracefully, a Philadelphia lady, married to a Holland husband whom I called on at their home in Amsterdam, remarked that, there, ladies walked like canal boats.

I might have spoken of the Holland dog, which is so useful as a motor, pulling such heavy loads. By the way, I remember a story of a St. Louis doctor, who coming to Antwerp at night, the next morning looking out of the window saw a woman and a dog hauling a milk wagon, ungallantly remarked, "I am glad to be in a country where women and dogs are made useful."

But these and various topics have been omitted, for my thoughts have been chiefly given to the dead—indeed I may conclude with an extract from one of Southey's poems, promising in my next letter, to tell you something of the Medical Congress of Obstetrics, Diseases of Women and of Children, which convenes at Bordeaux on the eighth.

"My thoughts are with the dead; with them
I live in long past years;
Their virtues love, their faults condemn,
Partake their hopes and fears,
And from their lessons seek and find
Instruction with a humble mind."

Sincerely, THEOPHILUS PARVIN.

Trional and Tetronal.

In an exhaustive article, Egasse (*Bull. Gener. de Therapeutique*) reviews the literature regarding the therapeutic uses of these two drugs. The author, after an intelligent examination of the subject, is led to adopt the following conclusions. Trional and tetronal are not very toxic substances. Clinical trials show that trional especially is an excellent hypnotic, causing, particularly in the insane, a quiet sleep, its reparative influence being of long duration. It has the advantage over sulphonal in being rapid in action, even in small doses. Its bad after effects are rare, and when they occur are much less marked than in the case of sulphonal. Trional is not an analgesic in the true sense of the term, but in many cases it acts as an hypnotic by diminishing pain. It may be associated with opium or morphine. The dose of trional should not exceed 45 or 60 grains. The average quantity to be administered may vary from 15 to 22½ grains, taking into consideration not only the age and sex of the individual, but also the character of the affection to be combated. Dosage, however, should be left to the judgment of the clinician. Trional may be given in cachets or capsules, or, better still, suspended in a warm mixture, which facilitates its solution and absorption. It ought to be administered half an hour before retiring at night. In this manner patients will not feel the vertigo which trional sometimes produces. This drug is, on the whole, an excellent hypnotic, destined to replace sulphonal.—*Therapeutic Gazette.*

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SATURDAY, SEPTEMBER 7, 1895.

EDITORIAL.

NOTED IN THE EXPERIENCE OF AN ANESTHETIZER.

THE ANESTHESIA.

Anesthesia must be of the shortest possible duration. The administration should never be commenced until all other preparations have been completed, and the surgeon is ready to proceed with the operation. The practice so common in hospitals of anesthetizing one patient while operation is transpiring upon another, and sustaining the anesthesia until the surgeon be ready to proceed, is reprehensible in the highest degree. It amounts to culpable negligence, and the surgeon authorizing such an act should be held strictly accountable for any untoward results to the patient brought about by such malpractice.

Whenever possible the patient should be spared the sight of the immediate preparations for operation and any unnecessary display of instruments.

Never attempt to hasten anesthesia by the violent subjugation of the patient. In beginning the administration, give the patient time to become accustomed to the vapor, and to acquire confidence. A little time and patience exercised at the outset will prove a saving of time and trouble in securing the desired effects, and, invariably, will obtain a much more satisfactory anesthesia, with far less shock and harmful after effects than follow that brutal, cowardly, and unjustifiable method of forcing the ether by piling all available individuals upon the prostrate body of the frightened, struggling victim, and crushing him down until he be choked into insensibility.

As the administration progresses a point is reached where the stage of ex-

citement culminates and is about to pass into that of relaxation, where the faculties are in abeyance, the senses are blunted and volition totters, about to fall. Now, whether or not the earlier stages have been passed easily, whether the patient has been docile or violent, there comes a time when respiration will apparently entirely cease and the condition may even seem alarming. It is at this point that the anesthetizer not infrequently makes a mistake. He removes the inhaler to admit air and even takes measures to re-establish respiration. The mistake lies in not pushing the anesthetic and carrying the patient immediately into the third stage. As a matter of fact the apparent cessation of respiration is a willful act of the patient and can be sustained but for a moment, for as consciousness lapses the inhibitory power of the will is suspended. It will be noticed that although the patient is holding his breath, hearing, the last of the senses to be abolished, still persists, and ofttimes the patient will respond to an order distinctly spoken into his ear; the action of the heart is unaltered; and there is no cyanosis as would be the case were the condition a genuine asphyxia. Push the ether until relaxation is secured. To withdraw it and admit pure air is only to postpone the transition from the second to the third stage, and prolong the undesirable period of excitement and resistance.

This voluntary holding of the breath is generally the final exhibition of the stage of conscious excitement and resistance, but as frequently happens it may be followed by a period of marked unconscious or semi-conscious excitement, increased resistance and even violent struggle. It is only during these unconscious struggles that control of the patient by force is imperative.

This point of transition is important in another respect. It often happens that a patient, who during the early stages may have proved refractory to the influence of the anesthetic, upon reaching the third stage will drop into unconsciousness so deep as to excite apprehension. It would seem as though the ether was cumulative in action, and suddenly and forcibly exerted its full power to plunge the patient into profoundest narcosis. If the degree of unconsciousness is not appreciated and reaction allowed, the patient's life is imperiled. For the continuance of the ether will speedily produce paralysis of the involuntary muscles, stertorous breathing, disordered heart action, cyanosis, asphyxia, coma and death. If not immediately disastrous, the patient is liable to the more remote effects of ether poisoning, the results of irritation of the vital organs, and especially of the kidneys.

This renders it necessary to have some reliable and constant indication by means of which the degree of unconsciousness may be estimated, and the plane of anesthesia maintained at a comparative level, and without marked fluctuations. Many signs have been suggested as giving the desired indication of that golden mean between consciousness on the one hand and coma on the other. No one sign, however, holds good in all cases. Insensibility of the conjunctiva taken by itself is valueless. The abolition of general muscular reflexes is a pit for the unwary. The experienced anesthetizer may find the reaction to light of the pupil a useful indication of the degree of unconsciousness, but by itself the sign is not a safe criterion. Paralysis of the buccinators and stertorous breathing ought never to occur during anesthesia. These are huge danger signals and are outside the limits of the relaxation necessary for ordinary surgical anesthesia. Most desirable is the token indicating the

point where the second stage of anesthesia merges into the third.

There is one indication which presents in the vast majority of ether anesthesias which is the most reliable of all criteria for estimating the degree of unconsciousness. When a patient has passed into the third stage of anesthesia—the stage of the abolition of all voluntary muscular effort, the reflexes inhibited, and complete relaxation obtained—if the ether be withdrawn for a short time and then resumed the patient will show signs of laryngeal irritation by efforts at swallowing, and, if the ether has been withdrawn too long, *by choking*. This evidence, when the addition of a little fresh ether will cause these movements of the larynx, is the best criterion by which to gauge the depth of anesthesia. It is the line where the second passes into the third stage. Sensation is abolished, muscular relaxation is established and all the senses are held in abeyance. The complete withdrawal of ether will allow speedy reaction; the addition of fresh ether will deepen the unconsciousness.

A reliable measure, therefore, is to try frequently the effects of a little fresh ether, and if it produces no signs of irritation in the throat, withdraw it. The anesthesia is sufficient. If, however, fresh ether gives the evidences of irritation, continue the administration until additional ether will not cause these signs. If this be not done the patient will continue to regain consciousness, with the undesirable effects of muscular resistance, etc.

In operations involving the removal of an organ, as in an hysterectomy or a major amputation, the degree of shock entailed may be materially lessened by deepening the anesthesia immediately before excision. But the maintenance of profound insensibility throughout operation would of itself produce shock, perhaps to the extent of failure to react, and a death would be recorded from surgical shock. Indeed it is more than probable that a goodly percentage of the deaths reported as surgical shock, are in reality ether drowning.

A factor largely concerned in the production of shock, and one too often overlooked during anesthesia, is the very great and rapid reduction of animal heat occasioned by the conditions and environment of the patient. Thus there is rapid irradiation from the external surfaces of the body because of unusual exposure and insufficient covering. Now and again the body is wet with the water used during operation, or drenched with perspiration, the result of disturbed innervation. The patient is clad in garments much lighter than in health would be worn in the same temperature. Again, the enormous abstraction of heat incident to the evaporization of ether throughout the mucous cavities and the air cells of the lungs. This mechanical loss is intensified by the co-incident reduction of tissue-oxidization, loss of circulatory equilibrium, and the fluctuations in blood pressure.

The indications are to prevent undue loss of body heat by controlling, as far as possible, the conditions which permit of it; to supply by artificial means enough heat to make up the deficiency. The intense chilling of the mucous surfaces is often the source of bronchial irritation and pneumonic congestion. Dry heat may be applied to the surfaces of the body in any manner available, and the loss from irradiation reduced by covers of some non-conducting fabric—best of all by pure wool blankets. The maintenance of a high temperature in the operating room throughout the anesthesia, is apt to lessen the loss of heat from internal surfaces. These measures will be satisfactory under ordinary circumstances. Where woolen

blankets are not available, paper may, if clean, be substituted. As an insolator paper is as far superior to wool as is the latter to cotton.

When anesthesia is once satisfactorily established, the anesthetizer will find his attention fully occupied by the effort to maintain the desired degree of insensibility, to prevent, on the one hand, the revival of the patient to consciousness, and on the other depressing him into profound narcosis. The first involves not only the appreciation of pain and the excitation of muscular resistance, but it is very apt to be accompanied by vomiting and violent retching. Vomited matters are liable to become lodged in the wind-pipe and produce suffocation, and the straining of the effort is often so great as to compel the suspending of the operation. If the vomiting should occur, unless regurgitated matter has lodged in the trachea, the anesthetic should be immediately and persistently administered until relaxation occurs without loss of time and the admission of air by endeavoring to wipe clean the mouth. Lower the patient's head with extension and turn to one side so the material may be drained from the open mouth while the inhalation of ether continues.

Ether is prone to excite broncorrhœa sometimes to excessive degree. This is often a distressing complication, as it seems to materially interfere with the effect of the ether; and furthermore, patients in whom the complication occurs, are much more liable to nausea as an after effect on account of the ether-soaked mucous which is taken into the stomach.

It is also where broncorrhœa is profuse that cyanosis is most liable to transpire. But broncorrhœa is a complication of the earlier stages of anesthesia, and once the stage of relaxation is secured the secretion is not apt to be so profuse, and indeed may cease entirely. The exercise of care in not forcing the ether in the earlier stages, and of keeping the mouth as free as possible from the accumulation of mucous by frequently wiping it out, and constant efforts at draining will greatly mitigate the broncorrhœa.

Not infrequently where broncorrhœa pre-existed ether seems to have effected a cure. This does not hold good in emphysema. Ether is said to act disastrously in cases where kidney disease existed, and if so it must be because of systemic poison. In the observer's experience ether has produced no discoverable ill-effects even where kidney disease pre-existed; nor has pneumonia nor serious bronchial trouble resulted from its administration. Such complications undoubtedly do occur and frequently, and must be attributed to the anesthetic, but the anesthetizer rarely will see such complications arise if ether had been judiciously and skillfully administered. Certainly the risk in such complications occurring from the use of ether is not greater than the risk of sudden death from the use of chloroform, which no degree of intelligence can forsee, and no refinement of skill prevent.

Vote of the German Congress of Internal Medicine Upon the Diphtheria Antitoxin.

At the conclusion of the discussion before the above Congress on the value of the serum therapy of diphtheria the following resolution was adopted: "That this meeting is of opinion that no harm had been done to the patients by the antitoxin treatment, that the majority of observers had seen good results, and that the experiments concerning immunization were not yet sufficient and should be continued."

ABSTRACTS.

ADDRESS ON STATE MEDICINE.*

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Hygiene is as old as the profession of medicine. But "State Medicine" is of comparatively recent origin. We find the leader of Israel promulgating sanitary regulations for his people that can hardly be improved to-day. Greeks and Romans honored the sanitarian and gave much time to the study of subjects connected with matters pertaining to public health. Pure air, pure water were deemed by them to be a great desideratum. The Aztec erected aqueducts to supply the City of Mexico with pure water long before Columbus sailed from Palos. But amid the wreck of the Dark Ages the little that had been taught regarding the necessities of hygiene to public health was buried, and only in the last sixty years has its resurrection and rëestablishment upon a firm and more enduring basis been attempted.

Although it has been generally conceded that the people by their representatives have the right to enact laws which will protect them as individuals or as communities against all influences which are harmful to the person, property or health of the individual, separately or collectively as a community, it was nearly thirty years after the pioneers in this work attempted to improve the hygiene status of the poor in some of the manufacturing parts of the larger English towns, before the first State Board of Health was established by act of legislation in this country, that of Massachusetts.

So luminous was her example and so active, thorough and faithful in their teachings were the missionaries of this gospel of cleanliness and prevention that now every State in the Union, except three, have their health department established by legislative act, each of which is doing its own peculiar work, diffusing to a greater or less extent in their respective States a knowledge of personal hygiene, and exercising the powers delegated to them to prevent the spread of epidemic and contagious diseases, with the result that the citizen finds himself less liable to the contagion of pestilential disease, and with a prospect of added years to his average of life. I desire to call your attention to the great and good work these State Boards have done and to commend them for their enthusiasm, their patience and their perseverance in the varied and often delicate duties which have devolved upon them.

Not in every instance have they been composed of men familiar with the rudiments of sanitation, but too often political considerations have entered into the choice that an executive has made. This can not be too severely condemned, and an enlightened public are demanding that these boards shall be composed of experts thoroughly trained by education and experience in the best and latest sanitary knowledge, and the methods of applied hygiene. But the best of those boards have at times felt that the inadequate pecuniary provisions which have been made for work by even the most liberal legislature have hampered them in so many ways that the results of their labors have fallen far short of what they might and ought to have been, not alone for the sake of science itself, but for the best and highest welfare of the States themselves.

It is the part of wisdom and good statesmanship that in each State the militia should be equipped and drilled for service as conservators of domestic peace, and as a reliance for protection from a possible foreign invasion. It is interesting and stirs one's patriotism to observe with what alacrity and unamity

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legislators vote generous appropriations for these purposes. How painful the contrast when asked for a comparative pittance for carrying out measures to protect the same people from an invasion of an army of microbes which threaten more lives than the invading army of any foreign foe. My own State spending annually $20,000 more upon its one regiment of National Guards than upon its health department, and the great and good commonwealth of Massachusetts, pioneer in sanitary science as she has been in so much that has been for the benefit of humanity and the advance of our higher civilization, appropriates annually $187,000 more for maintaining her efficient military establishment than for her Board of Health. New York, the Empire State, with its large port of entry, and consequently its especial liability to invasion by any and all forms of pestilence, appropriates nearly $800,000 more for its splendid military department than for its health organization. These will suffice as examples of all the other States.

The explanation of all this is not a difficult task; it is summed up in the state of "public opinion." The masses are pleased with, and have no criticisms for, expenditures made for the gay trappings, the brilliant equipments, the pomp and grand display of their martial hosts. On the other hand, this same public, while they have become so far enlightened as to believe that some provision is necessary for their protection "from the pestilence that walketh in darkness and the destruction that wasteth at noonday," yet they do not appreciate the quiet, unostentatious work which is done in the laboratory and the quiet methods used to prevent the spread of different epidemics. These State boards have had their efforts cramped and much circumscribed, as a result of State lines and a want of co-operation with the boards of other States, and this leads us to consider the necessity and desirability of a National Board of Health, presided over by a Secretary of Public Health.

The bill introduced by Mr. Gray into the last Congress and known as Senate Bill 1840, was a good measure and ought to have become a law. But, alas! it came to an untimely death in the hands of the Committee on Epidemic Diseases. It was prepared and presented, as were many other worthy measures, with enthusiastic hopes that the LIII. Congress would rise to its high privilege and embrace the great opportunities that presented themselves for beneficient and practical legislation. But those hopes were

> "Like Dead Sea fruit that tempts the eye,
> But turns to ashes on the lips."

Before this bill is introduced into the LIV. Congress, it would be wise to amend it, by providing for an advisory board of one member from each State, from the medical corps of the army, navy and Marine-Hospital service. This would render it more practical and more popular. This advisory board would only meet on the call of the Secretary of Public Health, and would discuss and advise upon such questions as he might propose. They would be his correspondents in different parts of the country, and would be required to render such service as he might demand.

In order, however, to secure the passage of any bill it will be necessary to educate the press and through them the people and their representatives in Congress. The facts that demand attention are numerous and convincing, and it would seem that they need only to be presented to carry conviction to the mind of the ordinary person. Let the attention of congressmen be called to the records of the War Department, which show that during our Civil War the number killed in battle and of deaths from wounds was 93,443; the deaths from preventable diseases were 108,666. If to this vast number who perished, we add those who were disabled and broken in health by the infliction of preventable diseases that do not kill, as instance 1,700,000 cases of diarrhœal diseases, and we have the startling fact that no foe which could give us battle would decimate the active population of the country like the preventable diseases. At the same time millions upon millions are appropriated, and rightly too, to give the nation a Navy that will protect us from attacks of foreign armies, but only a few paltry thousands to protect our nation from the greater scourge of preventable diseases.

The subjects which would present themselves for study, investigation and regulation to this National Health Bureau are so numerous that we can only call attention to a few of them. It may be true, as suggested in a recent work on degeneration by Nordau, that we are living in an age when degenerates are to the front, forming public opinion and educating the masses by a literature which eminates from the brain of a degenerate, who is so well described by this author as a person who "finds it easier and more convenient to allow his brain centres to produce semi-lucid, nebulously blurred ideas and inchoate embrionic thoughts, and to surrender himself to the perpetual obfuscation of a boundless aimless and shoreless stream of fugitive ideas; who rarely arouses himself to the painful attempt to check or counteract the capricious and, as a rule, purely mechanical associations of ideas and succession of images, or brings under discipline the disorderly tumult of his fluid presentations. On the contrary, he rejoices in his faculty of imagination, which he contrasts with the insipidity of the Philistines, and devotes himself with predilection to all sorts of unlicensed pursuits permitted by the unshackled vagabondage of his mind; while he cannot endure well-ordered civil occupations requiring attention and constant heed to reality." If it is further true, as is claimed, that the number of these degenerates in this country are being rapidly increased in number by reason of the use of narcotics and stimulants, of tainted, adulterated or contaminated foods, the absorption of organic poisons, the sapping of vitality by the constant nervous excitement under which we live; is it not time that there should be some authoritative branch of the government to inquire into the causes of this degeneracy and advise some means of staying the tide of national destruction?

It is certain that the safety and welfare of the people of this country, and the interests of commerce, demand the establishment of a uniform system of quarantine, under the control of the Federal Government. It has been well said that in times of danger it is of equal concern to the entire country—to the people of the interior states as well as those on the seaboard—that quarantine should be national in character. It is not just to throw the expense and responsibility of the defense upon any one class of the State, nor is it just to deprive those living in an interior State from a voice as to the method and degree of protection along the seaboards and frontiers. Furthermore, to render all lines of defense effective, every point must be fortified when the invasion of disease is threatened or possible. Neither is it wise or safe to trust the defenses to chance or to a quarantine system varying at different points, as now exists under the separate regulations of the various States. While safety should be secured, as little interference and inconvenience with commerce and individuals should be allowed as possible.

The efficient Health Officer of Canada has well said, "that from the long period of incubation of some of the infectious diseases and the relative shortness of the voyage from many ports outside the country, and from the possibility of disease lurking in imported clothing and effects, it is evident that unless there could be a routine quarantine detention of all vessels arriving at every port and a routine disinfection of all clothing and merchandise from abroad, there is always the possibility of exotic disease passing the quarantine barriers in an invisible and unrecognizable stage and condition, and first declaring itself in the interior of the country. This can not be avoided without such detention of vessels, passengers and merchandise at the ports of arrival, and such consequent interference with trade and commerce as would be quite unjustifiable and impracticable." Hence the necessity of a central, harmonizing, governing board to bring into co-operation of the various local health boards and at the same time to secure the necessary co-operation of all foreign nations; in fact, the adoption, in some form, of the recommendation made at the meeting of the National Quarantine and Sanitary Association by a committee of which Dr. A. N. Bell was chairman: "That of the adoption, by the commercial nations, of a sound and well-digested code of marine hygiene, and of the necessary measures for insuring its strict enforcement."

While we would urge with all zeal the necessity of national quarantine, we would hold in grateful remembrance the work of local boards in our large ports of entry, and the able and thorough efforts in this direction of the Marine-Hospital Service. But we must bear in mind that this service was rendered in default of any national organization that could do this work.

Much of our safety depends upon the thoroughness with which proper quarantine regulations are enforced by the sanitary authorities of Canada. It is a pleasure to speak with some personal knowledge of the faithful and painstaking work done in the Dominion under the watchful care of the Medical Superintendent of Canadian Quarantine Service, Dr. Frederick Montizambert. By this efficient service the danger of imported diseases from this source is infinitesimal.

Standing on the verge of the centennial of the first successful demonstration of secured immunity from disease by the use of an antitoxin, it is pertinent to inquire if we are, in the light of our present scientific knowledge, carrying out carefully and faithfully, vaccination as Jenner gave it to us. It only requires the announcement that small-pox has appeared in any community, to learn how large is the number of adults who have never been vaccinated, not because of any objection to vaccination, but from neglect in having their attention called to it. It is unnecessary to discuss the usefulness, the desirableness, the imperative necessity of this wonderful protection to the human family. Each year of the century has demonstrated it. Millions of people have testified to its beneficent powers.

In this country, and in most of the countries on the continent, animal lymph is used in preference to humanized. England is now adopting it in some measure; but the Jennerian method of arm-to-arm vaccination has had so strong a hold that it has been slow in adopting the use of bovine lymph.

In nearly all foreign countries the production and distribution of calf lymph is under control of the government; in this country, however, only two States maintain vaccine establishments for the propagation of vaccine lymph, The general government does nothing at all. As a result we have the production and distribution of lymph in the hands of commercial men. Dr. Abbott remarks that, "the private producer conducts his operations in such a manner as to secure the greatest possible returns with the least possible outlay of money. Vaccine lymph is bought and sold, and competition in prices naturally leads to deterioration in the quality of this important article, which should be freed from every influence which may in any way lead to its impairment." But the danger lies not only in the fact that it is an article of commerce, but still more in the methods of its sale. Druggists and middlemen act as agents for its sale; as a consequence this vaccine lymph often remains for weeks or months in the drawers of these agents, and when needed for use the guarantee of the producer is disregarded, the lymph of several weeks or months ago is sold, and finally used for vaccination. As a result it proves inert, and the consequence is charged to the insusceptibility of the infant or vaccinated person.

As a matter of fact, when vaccination is conducted under the best conditions of fresh lymph, insusceptibility is found not to exist, or to be a matter of rare occurrence. If such vaccinations are being made during a brisk epidemic of small-pox, and in families which have been exposed to the disease, it may happen that some children will take the disease and die, during the delay occasioned by waiting to ascertain whether the lymph of uncertain source and age will prove successful or not, and thus life is jeopardized and the practice of vaccination falls into disrepute. Again, the commercial producer is very likely, in his haste to become rich, to take less time and to become careless in his technique—in consequence the lymph becomes contaminated with foreign microbes which may produce either abscess, septicemia, or other pathologic states. For these reasons we would urge that a most imperative demand exists for the establishment of a National Health Bureau, one duty of which would be to produce a pure vaccine lymph under the most careful aseptic conditions and furnish it to State Boards free or at cost.

It is a serious question if the time has not arrived when the medical profession should study from a purely scientific standpoint the great practical question of the effects of alcohol as a beverage.

Dr. Crothers, in an address before the Public Health Association, asserted that, "Inebriety is clearly more prominent as a cause of disease and degeneration than all other factors known at present. The various authorities who have tried to tabulate the number of defectives due directly and indirectly to inebriety, have varied widely in their estimates, showing that the facts are not yet all grouped and studied. These estimates have placed inebriety as the active cause of from 10 to 60 per cent. of all insanity; from 30 to 80 per cent. of all pauperism; from 60 to 90 per cent. of all criminality; and 30 per cent. of all idiocy. These are the highest and lowest estimates made by various authorities in this country and Europe, and bring unmistakable evidence of the influence of inebriety, not only over public health, but over all growth and civilization." Here is a subject for investigation in which our profession should, as guardians of the public health and as conservators of the country's good, take the lead, and not trail in the rear of public opinion as we are now doing. It is not only our privilege, but our duty, as members of the only profession who by training and experience are prepared to enter upon a thorough scientific study of the questions which it involves. If scientific workers in the medical profession should examine this question from a purely scientific and practical standpoint, taking facts and not theory as a basis, we should soon be in possession of accumulated knowledge which would enable the medical profession to speak with authority upon a problem which has been agitated and considered from other standpoints, without being able to lay down positive and incontrovertible propositions as to its effects, and the best means to remedy the various resultant conditions. It is true that for many years a committee of the British Medical Association have had the subject under consideration and, in connection with the British Social Science and Public Health Associations, have done much to place this question upon a scientific basis, and have furnished data from which an effort has been made to restrict and alleviate the various phases of trouble that have resulted from its general use. Yet as diseases in general are modified or intensified, and their sequelæ changed by climate and environment, in how much larger measure shall we find that the effects of alcohol are different in our climate, with our natural characteristics and the different forms or methods of using it. Let a National Bureau of Health take this matter in charge, and pursue an exhaustive investigation upon the lines indicated, calling to their aid and utilizing the work done by committees of this and other organizations, and it would soon be in possession of positive facts with which to elucidate this great problem.

At the present time the whole world is roused and stands with bated breath listening for the scientist to announce the discovery of a new therapeutic or preventive serum. It is believed that we are possessed of a serum or antitoxin by which the mortality of diphtheria is apparently very much reduced; while we are in the stage of demonstration of the effects of the serum in preventing and curing this disease, it is necessary that we should exercise great care in securing fresh reliable antitoxin, and caution in its use. In this matter we are again indebted to Massachusetts for an example of what the general government should do; prepare under suitable conditions the antitoxin of undoubted purity and supply, under proper regulations, free to such communities as might desire it. Investigation experimentation is going on in many laboratories which promises to give us other valuable curative and preventative serums. Although disappointed in the curative value of tuberculin it has proved of great value in the diagnosis of bovine tuberculosis. In the older states, where great attention has been given to dairy interests, every method has been adopted that would in any way increase the product of milk, regardless of the health of the animal; as a result, we have under these conditions what is practically unknown on the prairies of the West, a corresponding increase in dis-

eases affecting the dairy cow, the principal one being tuberculosis.

James Law in a report on tuberculosis remarked: "Few, if any, diseases maintain a sway over a more numerous genera of animals than tuberculosis. All must, therefore, be considered as possible bearers and disseminators of the infection, and no such animal can be left out of account in any systematic attempt to root out the disease. Some are, however, justly held to contribute more than others to the maintenance of the affection and in this sense, in addition to man himself, we must consider as pre-eminently bearers of this disease cattle, fowls and pigs. It is doubtful if any observation or study has been sufficiently thorough to enable any one to make an accurate table of the prevalence of this disease among the cattle of this country. As already indicated it is hardly known in the West, as in over two million beeves examined in the packing centres it was present in only two-tenths of 1 per cent., while in cows in this city (Baltimore) 2½ to 3½ per cent. showed its presence, and in at least twenty thousand examined in the State of New York it was present in nearly 2 per cent. In Massachusetts it was present in 7 per cent. During the last five years various investigators have been at work upon this subject, and have arrived at conclusions more or less correct regarding some of its phases. These conclusions are of a most startling character, and certainly demand and are receiving at the hands of the profession most serious consideration; among the laity these decisions have produced a state of great alarm and an apprehension of danger from the use of dairy products as well as meat. Time will not permit us to enter upon a full discussion of this subject; we may, however, briefly consider some of the conclusions arrived at after a careful and thorough clinical study, as well as biologic experiments, post-mortem examinations, and microscopic investigations of the flesh and milk of a large number of animals. Dr. P. H. Bryce, Secretary of the Provincial Board of Health, Toronto, having made a most careful study presents the following deductions:

1. That tubercular infection has existed in greater or less degree in man, according to post-mortem evidence in a percentage, in some groups of cases, to the extent of from 25 to 50 per cent.

2. That it produces fatal results at different life periods after the first year to an almost equal degree.

3. That the tubercular process, fatal in so large a degree, may nevertheless exist in man and in animals, according to the localization, condition and extent of the tubercle, the constitution of the individual, the environment, as of climate, etc., for an indefinite length of time, the individual finally dying from other disease.

4. That the infection may, however, be present in such instances to an extent sufficient to transmit the disease through the air passages, and possibly in cattle through the medium of the milk.

5. That in many cases the disease may remain in an inactive condition, the man continuing in a fair condition of health, and being able to pursue his ordinary avocation, and the cow appearing well nourished and giving milk in apparently normal quantities; but that in all such cases there is an ever present danger of cold, or other occasion of inflammation setting up general infection of the system with fatal results.

6. That the seat of the disease will largely determine the degree of danger of infection and the direction of its transmission.

7. That in cattle, while the bacilli are probably always present in the milk when the udder is tubercular, yet the bacilli may be present in the milk in a considerable percentage of cases where even post-mortem examination reveals no tubercles of the udder.

8. That in woman, tuberculosis of the mamma is but seldom found.

9. That in cases where tubercle is present in lymphatic glands, in lungs, liver and other organs, the juice of the muscles has been found in some instances to produce infection, even where no tubercle of muscular tissue could be discovered.

9a. That the inoculation of either men or cattle, when not experimental, takes place in practice always by way either of the respiratory or of the alimentary tract.

10. That the inoculation is dependent

upon the extent and frequency of the passage of ineffective materials into either tract, and largely upon the receptive condition of the mucous membrane in both cases. A healthy mucous membrane offers much resistance to the passage of bacilli.

11. That the infection may begin in the epithelial surface of the air cells of the respiratory tract, and probably, in some instances, also in that of the mucous membrane of the intestinal tract.

12. That when bacilli pass into the system they do so by way either of the blood capillaries or of the lymphatic vessels in the wall of the air passages and the villi of the intestines.

13. That when they have passed into the blood capillaries they may produce localized tubercles at the point of inoculation, or may, by passing into the blood current, produce infection at points and in organs distant from the same.

14. That inoculation into the lymphatics, while capable of producing localized infection, tends to transmission of the bacilli to the neighboring lymphatic glands and to the prevention of the progress of tubercular infection of the system.

15. That while inoculation by means of the blood vessels of the intestines may result in tubercles in the liver, spleen, etc., yet inoculation by the chyliferous lymphatic is likely to result in tubercles localized in the lymphatic glands, especially of the intestines and mesentery.

16. That both in man and cattle, by far the most common seat of tubercles is in the lungs and adjacent lymphatic glands; and that this fact, along with the statistical evidence of the frequently repeated cases of pulmonary tuberculosis in persons exposed to the infected air of sick rooms and in cows to that of infected stables, points to the inference that the great proportion of cases of tuberculosis are the results of aerial infection by way of the respiratory tract.

17. That while the great number of deaths from tuberculosis in children, as from *tabes mesenterica* or consumption of the bowels, points to the probability of frequent cases of infection through milk and other food by way of the alimentary tract; yet the still larger number of cases of lung tuberculosis in children, the relatively small number of calves and young cattle infected with tuberculosis and the comparatively few instances of 'tuberculosis cattle in which the intestines, mesentery or other abdominal organs are found on examination to be exclusively tubercular, point very strongly to the conclusion that infection by way of the intestines is relatively seldom in cattle, and that where it does take place in children it most probably is dependent on the previously unhealthy and congested state of the mucous membrane of the walls of the stomach and of the intestines.

After the most careful experiments, Drs. Ernst and Peters arrives at these conclusions concerning the infectiousness of milk: "First and emphatically, that the milk from cows affected with tuberculosis in any part of the body may contain the virus of the disease.

"That the virus is present whether there is disease of the udder or not.

"That there is no ground for the assertion that there must be a lesion of the udder before the milk can contain the infection of tuberculosis.

"That, on the contrary, the bacilli of tuberculosis are present, but with no discoverable udder lesions."

It will be noticed that these investigators, although working in widely different fields, have made one point in common which seems to be of great significance so far as its propagation is concerned, that is "that the juice of the muscles has been found to produce infection when no tubercle of muscular tissue was found, but when it was found in other structures of the body." The milk of cows suffering from tubercle in the lungs but without any lesion of the udder or the presence in the milk of any bacillus, will by inoculation produce tuberculosis. This would seem to add weight to the question already raised, whether the disease is caused by the bacilli, or by a virus of which the bacillus is only any incident. The prevention and cure by anti-tubercle serum as advocated by Dr. Paul Paquin and others, if efficacious would do much to save life and prevent the destruction of property. Should further data be needed to show the important place this subject would hold in governmental investigation, it is only necessary to call attention to the commercial importance of

our beef and dairy products, the market for which is now in jeopardy by reason of the exaggerated fears of people lest they gather to themselves the seeds of disease.

The subjects which would demand attention from a Department of Public Health, are numerous. The question of proprietary medicine which interests every family in the land, is an evil which in spite of the continuous maledictions that have been hurled against it by all scientific medicine, both as organizations and as individuals, has continued to thrive, until at the time it is intrenched behind millions of money and is held in high esteem by the people because of its ability to hide its worthless character or possible dangerous combination behind a trade-mark. If the manufacturers of these nostrums were obliged to deposit with the Public Health Department, under certain restrictions, as suggested by Dr. Stewart, the formulæ from which they are prepared, it would do more to eradicate this stupendous swindle from the land than all the fulminations that could be hurled at it for centuries; it would have an equally elevating effect upon the science of pharmacy which is so indispensible to our success.

The question of pure unadulterated foods, pure drugs, pure water; the cause and prevention of the degeneration already alluded to and the resulting increase of insanity; the effect of our varied climate upon diseases we suffer from, and many others all press for solution.—*Jour. Amer. Med. Assoc.*

CAUSE OF DEATH AND CHANGES IN THE ORGANS AFTER SCALDING.

Markusfeld and Steinhaus (*Centrabl. f. allgem. Path.*), record the results of a number of experiments made in order to determine the cause of death after scalds. The experiments were performed on rabbits, and the scalding was produced by placing the ears in water heated to a high temperature. Generally the rabbits die when the temperature from 56° to 66° C. was reached. In the blood small globules were found, similar to those which can be produced by the influence of heat on a hanging drop of blood, and which are due to the separation of globular processes from the red blood corpuscles. The blood also contained microcytes and poikilocytes, and broken-down red corpuscles. Thrombi were found in numerous veins and arteries, in the kidneys, liver, lungs, cardiac muscle, brain and spinal cord. These thrombi were composed of blood plates, which in some cases occupied the whole lumen of the vessel; in other cases only a portion of the same, whilst the remaining part was filled with red corpuscles, broken-down red corpuscles, and more or less numerous leucocytes. Often the blood plates were mixed with granular masses, and sometimes the lumen of the vessel appeared filled with almost homogeneous hyaline substances. The arteries and many of the veins of the ears were filled with compressed masses of red blood corpuscles; the other veins contained finely granular or almost homogeneous masses. During the experiments the temperature of the rabbits rose considerably, but the same changes were found in the blood vessels when the rise of temperature was prevented by pouring very cold water over the animals. To furnish conclusive evidence that death and pathological changes are due to the action of heat on the blood flowing through the vessels of the scalded ears, it would be necessary to determine the result of ligaturing the vessels of the ears, and so preventing their contents from entering the general circulation. Owing to the numerous capillary anastomoses this is impossible. But by ligaturing the main vessels only a small amount of blood from the ear reaches the general circulation, and in these cases the authors found that in spite of the ears being exposed to water at a very high temperature (70° to 75° C.), death did not occur during the course of the experiment, the temperature did not rise, the blood changes occurred later, and were much less marked, and thrombi were exceedingly rarely seen.—*Brit. Med. Jour.*

PERISCOPE.

IN CHARGE OF WM. E. PARKE, A.M., M.D.

MEDICINE.

Typhoid Fever in Infants.

(*Jour. Am. Med. Assoc.*) 1. Tyhoid fever occurs more frequently in children than is generally supposed.

2. The fact that ulceration and hemorrhage is much less frequent would explain the absence of pronounced abdominal symptoms.

3. The erratic, undeveloped and hypersensitive nerve centers in early child life, explain why the toxic secretions of the Eberth bacillus should make cerebral symptons very pronounced.

4. Given a child of any age with or without intestinal disturbance, with a continued elevated temperature, with or without evideuce of cerebral disturbance, the possibility of the presence of the Eberth bacillus of typhoid fever should be constantly kept in mind.

Scarlatina and the Streptococcus Infection.

After a careful review of this subject as it is at present understood, the following conclusions are drawn by the author:

1. A specific scarlet fever germ or toxin is not yet demonstrated.

2. The disease is associated with a streptococcus infection.

3. A streptococcus is admitted to be the cause of surgical scarlatina and puerperal fever.

4. A streptococcus is admitted to be the cause of erysipelas.

5. The frequent association of the latter with puerperal fever, and in turn with surgical scarlatina.

6. The relation of idiopathic scarlatina to surgical scarlatina and puerperal fever is acknowledged.

7. The identity of the streptococcus pyogenes and erysipelatis is advocated.

8. Clinical records showing the association of suppuration, erysipelas, and scarlatina in the same subject, is suggestive of the parallelism of these three infections and the probable biologic identity of these several streptococci.

9. Clinical differences and varying susceptibility to the one or the other is due to heredity, age, anatomico-physiologic conditions, congential disease, environment, life, history of the invading host, and its avenues of entry.

10. Idiopathic erysipelas should disappear from the nomenclature, analogously, idiopathic scarlatina may meet a like fate.

11. Natural immunity may be due to heredity and healthy fully developed structure.

12. Acquired immunity is to be sought from antitoxins of the disease, or through blood serum therapy that will revolutionize the treatment of this dread disease.

13. Inunctions are disapproved of, antiseptic baths better meeting anti-bacterial and physiologic indications.—(*Journal of Amer. Med. Assoc.*)

The Influence of the Schools in Disseminating Infection.

Dr. Moreau Morris (*Archives Pediatrics*) says that parents and guardians, with few exceptions, are willing to carry out the suggestions of the family physician regarding the best way of preventing the spread of infectious diseases. In the schools personal contact was unavoidable, and the susceptibility of children in general made it difficult to prevent the spread of such diseases. There were many ways of carrying contagion which would escape the notice of the casual observer. Thus, the school books were usually covered with muslin or cloth, often from houses in which there had been infectious diseases. The indiscriminate use of slates and of lead pencils was another means of spreading disease, and the common practice of washing the slates with saliva was exceedingly liable to cause the dissemination of diphtheria. In the higher grades of the schools it was the custom to furnish the scholars with paper pads and lead pencils, but unless each scholar had his own pencil, the same danger still existed. Books should never be covered with any textile fabric, but instead with stiff glazed paper. The outer garments of the children should be placed in suitable closets outside of the class rooms, and should be disenfected while there. The children should be compelled to come to school with clean faces and clothes. A mild attack of scarlet fever or measles, was popularly supposed to be noncontagious, and for this reason many children so affected were allowed to return to school while capable of spreading the disease. The teachers deserved much credit for their watchfulness and promptness in detecting children just developing infectious diseases. Any child found to be suffering from a sore throat should be sent home immediately, and not be allowed to return to the school until entirely well. All the children attending the public schools were required to present vaccination certificates, or to be vaccinated if this had not be done in seven years, but such vaccinations could not be performed by the Board of Health physicians without the consent of the parents or guardians of the children.

Management of Eczema in Children.

The paper on the above subject was read before the British Medical Association by Dr. Morris, who called attention to the following points: First, Are internal remedies required in eczema? If so, what are the indications which should guide us in their use? The author's view is, that internal medication is not required unless some constitutional dyscrasis underlies the skin affection. In chronic eczema, unaccompanied by constitutional dyscrasia, local treatment may be relied upon entirely, when the disease is inflammatory. Antimony is most valuable. In neurotic cases the sheet-anchor is opium. If this disagree, some other sedative may be given. If the neurotic element shows itself as depression, quinine may be

combined with the opium; if the discharge is abundant, belladonna may be combined with the quinine. Phosphorus, strychnine, and arsenic are useful in selected cases, but the last must be used with caution, or harm will be done instead of good. Cod liver oil and general tonic treatment are indicated when malnutrition and anæmia are present. Iron is contra-indicated when acute inflammation is present.

Second. The influence of diet in eczema. The author does not believe that the diet has any influence, except indirectly.

Third. What are the principles on which the local treatment should be carried out? Speaking generally, every case should be treated as if it were of parasitic origin. The objects aimed at in its local treatment are, first, to destroy microorganisms; second, to protect the inflamed surface from the air, and further microbic invasion; third, to soothe irritation.

The principles upon which the local treatment is to be carried out are as follows:

Soothe when the inflammatory process is acute.

Stimulate when it is chronic.

In either case keep the parts continuously under the influence of antiseptics.

How to Prescribe Hydrochloric Acid in Affections of the Stomach.

The *Journal des Practiciens* contains an able thesis on the above topic. The author recalls, that the introduction of acids in the treatment of stomach affections is by no means new, since their employment was suggested even by Haller and Sydenham, though Rousseau was the first to bring out the scientific use of chlorhydic acid. This acid, according to the present author, has two actions—eupeptic and antiseptic. Under the former indications, the acid is to be used in chronic inflammations of the stomach, in cancer of that organ, in pyrexias, in pulmonary tuberculosis and in a word in all those conditions which diminish the digestive power of the gastric juice. Two strengths are useful, two grams in 500 of water, and three grams in 300 of water. The former can be used in a wineglass dose at the end of half an hour after meals, the latter a tablespoonful in half a glass of tepid water at the end of a meal. The acid is contraindicted in round ulcer in dyspepsias with hyperæsthesia and neuropathies. It should not be used for more than three weeks or a month, and then after omitting for a fortnight use again as before.

As an antiseptic, this acid has given good results in those cases of abnormal fermentations with pyrosis, due to the formation of organic acids, in dilitation of the stomach, etc. When used antiseptically, the acid should be given outside of the periods of digestion, *i. e.*, a few hours after meals.

A Case of Poisoning With Nutmegs.

In the *Lancet* for January 19, Mr. T. G. Simpson, L. R. C. P., Edin., relates the following cases (*N Y. Med. Jour.*): On December 9 his assistant was called to see a woman, twenty-six years old. He found her lying on the bed in a drowsy condition and very delirious. There were fairly lucid intervals, when she complained of a sensation of great tightness across the chest and of vertigo and faintness when attempting to rise. She vomited several times. The pulse was seventy five a minute and rather feeble; the heart action was also feeble; the pupils were normal. It was ascertained upon making inquiries that the patient, who was a strong, healthy woman, had taken two nutmegs crushed in a small quantity of gin, as she had gone over the menstrual period for a week. The assistant directed her to remain in bed and to take a little strong coffee with a dessert spoonful of brandy in it every half hour. He also prescribed a mixture of potassium bromide, ammonia carbonate, sodium bicarbonate, spirit of cajuput, and chloroform water (quantities not stated). The author himself saw the patient a few hours later and found her condition improved, but still showing the same symptoms. He continued the treatment and the next day she was very much better, although there was a little vertigo, and she was very weak. The coffee and brandy were given up, but the medicine was continued, and on the following day she was able to get up. Since then recovery has progressed favorably. The author adds that the nutmegs had no effect whatever in producing miscarriage. —*Medical Review.*

Ravages of Small-Pox Prior to the Discovery of Vaccination.

At the time of the announcement of vaccination by Jenner small-pox caused more than one-tenth of all the deaths of the human race. Fifty million people died in Europe from small-pox during the eighteenth century. In the sixteenth century the disease appeared in Mexico, and 3,500,000 of the population yielded up their lives in a few years, leaving some provinces almost depopulated. In 1707, in Iceland, 18,000 died in one year, the entire population being but 50,000. Seventy per cent, of the people of Greenland died of small-pox in 1734. Small-pox is the most fearful disease with which the human race has ever been scourged. Macaulay tells us it was always present, filling the church yards with corpses, and leaving on those whose lives it spared the hideous traces of its power. "If a modern traveler," says Dr. Hyde, "could be transported to London in the early part of the present century, no peculiarities of architecture, dress or behavior would be so conspicuous as the enormous number of pock-marked faces he would encounter at every turn." It spared neither rich nor poor, and even invaded the palace of the king.—*N. Y. Med. Record.*

The Prevention of Consumption.

Dr. B. W. Richardson, in a late number of the *Asclepiad*, states that an obsesvation of the following rules will benefit those having a tendency toward pulmonary tuberculosis.

Rule 1.—Pure air for breathing is the first rule for the prevention of consumption.

Rule 2.—Active exercise, outdoor as much as possible, is essential for the prevention of consumption.

Rule 3.—Uniform climate is important for consumptives.

Rule 4.—The dress of the consumptive should sustain uniform warmth.

Rule 5.—The hours of rest should be carefully regulated by the sunlight.

Rule 6.—Outdoor occupation is preventive.

Rule 7.—Amusements of consumptive should favor muscular development and sustain healthy respiration.

Rule 8.—Cleanliness in the broadest sense is of special moment.

Rule 9.—Every precaution should be taken to avoid colds.

Rule 10.—The diet of consumptive people should be ample, with full proportion of the respiratory foods.

A Treatment for Acne of the Face.

In an abstract from the *Bul. Gen. Therap.*, which appears in *Lyon Med.*, the writer gives the following formula, which, he says, has often been employed at St. Louis with success: Fresh lard, 750 grains; betanaphthol and styrax ointment, each, 30 grains. Application of this mixture should be made strong friction every night for a week, then interrupted for six days, when they may be repeated if necessary, although it is often useless to do so. If there is an appearance of small acute clusters, which generally show themselves toward the second day, the acne is ordinary cured or very much ameliorated at the end of a week.

Asafetida in the Treatment of Insomnia.

A five grain pill of asafetida, exhibited after supper and repeated at bed-time will often bring refreshing sleep. In mild delirium, and especially during the period of unrest that precedes an attack of delirium tremens, the injection, by rectum, of two ounces of mixture of asafetida will, in many cases, produce the much-needed sleep without recourse to the more dangerous narcotics. —*Louisville Med. Monthly.*

Ophthalmia Neonatorum.

This disease is received by the child either in the interval from the time of the rupture of the amnion to expulsion from the vulva, or after delivery, by touching its eyes with unclean hands. The questions arising are, shall we render the vaginal secretions innoxious by universal irrigation, or by the selection of suspected cases; or shall we inject each infant's eyes following delivery, or treat the infection on its appearance? Prophylaxis in the mother is the ideal. Irrigation is not, however, free from disadvantage. Therefore, it is not faith to make the innocent suffer, unless the sacrifice is much less than the benefit. A healthy woman will not affect the infant's eyes. My custom is to irrigate with a warm bi-chloride solution of 1.3500, when the mother has leucorrhœa, gonorrhœa, or any ulcer, abscess, or abrasion. This is done in the stage of labor, and is repeated every four hours in prolonged labors, using an antiseptic oil, composed of olive oil, 95 per cent., and oil of cassia, 5 per cent; as an offset to the chief evil of irrigation—the washing out of the mucous secreted in labor. Children born of woman so treated, do not need injection of nitrate of silver, but should have the eyes washed with soft cotton, dipped in a boracic acid solution. If we are in doubt as to a patient, it is the least evil to employ the vaginal irrigation. In cases of gonorrhœa, the child's eyes should be treated after Credes method, in addition to the irrigation of the mother.—*Archives of Pediatrics.*

Lead-Poisoning Caused by the Use of Sugar of Lead in Repairing a Mill Stone.

In November and December, 1893, several persons living at Lang-Gons, near Giessen, were attacked with lead poisoning. It was assumed that the illness was caused by lead enamel in the family cooking utensils. An examination showed that the utensils were free from lead. Attention was then directed to the food; and it was found that the flour came from a grist mill to which the farmers took their grain to be ground. Out of eleven samples of flour and four of bread made from it, seven of the former and three of the latter contained lead, the amount varying from .013 to .068 per cent. of the ash. It was a matter of interest to discover whether it existed in the metalic state or as a soluable salt.

Analysis of fragments of the mill-stone of the suspected mill, and of substances used to repair the same, showed that a grayish white substance was used to fill up gaps and cavities in the top stone, which, according to the miller's statement was "alum." But analysis proved it to be acetate of lead. The question, how the miller came to use this poisonous substance was submitted to a court trial, but the result was not stated.—*Boston Med. and Surg. Jour.*

Rewards of Early Rising.

Aside from the helminthous property ascribed to the early bird by the adage, a recent newspaper writer implies that if one would become a healthy and well-preserved monarch all that is necessary is to acquire the habit of early rising. In support of his theory he cites the Emperor Francis Joseph of Austria, who invariably retires to rest at nine and is up at five—sometimes even at four—in the morning and who is "athletic, elastic and youthfully attractive." King Humbert of Italy, likewise remarkably well-preserved, is also up with the lark and has taken his first breakfast long before the majority of his subjects are out of bed. Among the early risers Emperor William, the Queen Regent of Spain, King Charles of Roumania, King Oscar of Sweeden, King Leopold of Belgium—indeed, says this writer, 'it only requires a passing glance at the various thrones of Europe to show that those monarchs most healthy and well preserved for their years are precisely those who, according to the new-fangled doctrine of the medical authorities, ought to be the ones most physically decrepit." The moral of which has been already pointed out: Get up early if you would be a healthy and well-preserved monarch.—*Jour. Amer. Med. Ass'n.*

The Resuscitation of Stillborn Infants.

During the past three or four years, in several cases of this kind, apparently under the most hopeless circumstances, when all other standard methods had failed, the author has resorted to hypodermatic injections of brandy or whiskey with the most satisfactory results. The amount used is five or six drops in first one arm and then in the other, fifteen drops being the largest quantity used in a single case. If the mother has suffered alarming antepartum hemorrhage, and the infant has been drained of blood before its birth, this method can avail nothing.

Stammering and Its Treatment.

Coxwell (*Intercolon. Quart. Jour. Med.*) This subject discusses from the neurological standpoint. After showing that the stammerer is never amnesic, and that the trouble of utterance is aggravated by ill-health, nervousness, etc., the author states that the fault lies in a paralysis of some part of the articulatory or phonatory mechanism plus excessive activity or even spasm of other parts. It is different from affections like writer's cramp, which are brought on by overuse of the organ; dysphemia does not result from overuse. Singing, from its rythm and continuous flow, is easier to the stammerer than ordinary speech, which changes rapidly in time and rate of flow. The author locates it in Broca's centre, and postulates two conditions to explain it, namely (a), a want of power (paresis) in some of the articulatory nerve mechanisms of that centre, and (b) a want of accurate nerve regulation of that cen re owing to defective control of it by higher centres. Hence the treatment is two-fold, namely, generally tonic, and specially gymnastic. Generally tonic: Regulated outdoor exercise, shower baths, and nerve tonics (quinine, strychnine, phosphorus, or Fellow's syrup). Vocal gymnastic: Daily practice in uttering the simple vowel sounds, at first slowly and then more rapidly, and after good proficiency is attained to add consonants. The patient should next practice reading aloud daily, mastering every difficulty only by slow and assiduous practice. Simply narrative reading should precede dialogue. Patience and steady practice (including vocal or singing exercise) should be combined, but always short of actual fatigue. The author states that he has cured many in this way, the treatment taking several months.

Strychnine in Nervous Cough.

Dr. L. Lichtwitz (*Sem. Med.*) according to author, the best treatment of nervous cough of central origin (in choreic, tabetic and hysteric patients)—which differs from ordinary cough by the nearly complete absence of expectoration and by habitually disappearing at night—consists in the administration of strychnine in large doses. He begins with 6 milligrammes of strychnine sulphate per day, increasing by 1 milligramme every second day, until a daily dose of 8 to 9 milligrammes has been reached. The medication is suspended at the end of two weeks, to be resumed a week later. If no result is obtained after the second week of treatment, Dr. L. resorts to electricity, massage, or hydrotherapy; or prescribes a change of climate (sojourn in the mountains.)

Renal Complications of Typhoid Fever.

Roth (*Munchener med. Wochensch*) cites a number of statistics in relation to the frequency of nephritis as a complication of typhoid fever. He mentions the observations of Mygge, who, systematically examining the urine of seventy-two typhoid fever patients, found albumen present in fifty-two. In half of these cases it was due to nephritis, in the other half to pyelitis or to cystitis. He refers particularly to cases in which the renal symptoms may be much more marked than those referrable to the gastro intestinal tract, and cites a case of a boy taken suddenly ill with headache, thirst, fever, and pain in right loin. On admission, fourth day of the disease, the urine was scanty, dark-red, cloudy, contained considerable albumen, epithelial cells, numerous white blood-corpuscles; no casts. On the eighth day roseola were found; on the ninth day the spleen was palpable; the urine contained albumen and epithelial cells from the pelvis of the kidney; no casts. The disease thus began as a pyelitis, it being only on the eighth day that the diagnosis of typhoid fever could be made. The constant absence of casts argued against nephritis. The patient recovered. Careful examinations will prevent the overlooking of pyelitis occurring during the course of typhoid fever, but in cases beginning as pyelitis the diagnosis may be obscured. Unless absolutely necessary in such cases the cold bath shoule not be used. During convalescence great care must be exercised regarding the diet, especially in the use of albuminous foods.—*University Med. Magazine.*

Tabes or Glycosuria.

Glycosuria says Grube in the *Neurologisch es Centrablatt*, is not uncommonly observed at the end of tabes. This should not cause doubt in our diagnosis. But it is much more difficult to decide between the two diseases when we see symptoms indicative of tabes in a recent case of glycosuria, or when the initial weakness of tabes causes glycosuria to be discovered. The actual question for decision is the distinction between genuine tabes although complicated with diabetes, and a pseudo-tabes. It has been said that the contracted pupil was the special characteristic of genuine tabes, but Grube proves that it has been observed in pseudo-tabes. The most significant symptom, in his opinion, is the existence of urinary difficulties, the latter never having been so far observed in a single undoubted case of pseudo-tabes.

The Treatment of Gouty Deposits in the Joints.

Among the most unpleasant features of chronic gout are the uratic deposits which occur in various parts of the body, and especially in the joints. These are commonly met with in the smaller joints—the fingers and toes—but are quite often observed in the larger articulations, such as the knee. In consequence of these hard, nodular masses, motion in the affected joints is difficult and painful, and if present in large amount they may prevent motion completely and constitute a a marked deformity. A large number of remedies have been suggested for the removal of gouty tophi, but, with the single exception of Piperazine, the results have been far from promising. Considerable testimony is at hand, however, in favor of this new remedy, and among others, Dr. Schweninger, well known as the physician of Prince Bismarck, writes as follows:

"In the course of my experience I have frequently had to deal with large stone-like gouty growths on the elbows, ears and eyelids, and in order to remove these they were formerly operated upon. I, however, lately tried Piperazine, along with the usual other treatment to dissolve these growths, and have experienced some wonderful results. Piperazine proved very valuable in nephritic colic as well as gout. The cases of

the latter, about 115 in number, had already been treated in various ways, but without success, and in spite of that I can affirm that with Piperazine I have been successful in curing over 90 per cent. of the patients suffering from this complaint. During my experience, extending over many years, I have treated numerous cases of acute and chronic gout, on which I have tried many different remedies, but with none of them have I succeeded so well as with Piperazine."

To obtain pronounced and permanent results from its use Piperazine must be administered for some time. A convenient method of employment are the tablets of Piperazine-Bayer, each of which contain the average daily quantity, which should be given in divided doses in a large amount of water.

Milk as a Diet of the Sick.

Where milk is employed in the dietetic management of the sick, it is well to remember that good cow's milk is never more than faintly acid when received, often and properly neutral; and should never require more than one-twentieth of its bulk of limewater to neutralize it; while poor cow's milk often has a distinctly acid reaction, and easily undergoes changes. The bacteria are foreign to milk, determine its various fermentations, and are reduced to a minimum number in milk properly collected and handled. That the degree of heat at and below which the nutritive values of milk are not materially changed is 75° Centigrade (167° Fahrenheit). That all milk is altered in its constitution by high temperatures. That the curd of casein is made lighter and more easily digestible by dilution.—*Coit.*

Treatment of Angina Pectoris.

Angina is one of the numerous pathological occurrences which may supervene in the course of cardiac sclerosis, which is the condition represented by the classical symptoms of angina pectoris.

What should be the treatment during a paroxysm? Drugs which will produce a rapid dilatation of the blood vessels are indicated. Morphine is one of the best, and should be given hypodermically, 1-6 grain to begin with. If this does not suffice, it must be repeated. Nitrate of amyl is quicker, and should be carried by the patient. Faradization of the cardiac region is useless. During the intervals between attacks nitroglycerine should be given, and if the iodides are used that of sodium is preferable. Tobacco, alcohol, fatigue are avoided, the diet should be good, but not stimulating.—*Rev. de Therap.*

Oxytocic Action of Salicylic Acid and its Compounds.

Hiram Vineberg (*Gazette de Gynecologie*) from observations of his own on the human subject, and from the experiments of C. Bing on the guinea pig, concludes as follows regarding the oxytocic action of salicylic acid:

1. Salicylic acid and its compounds may be advantageously administered in cases of scanty or retarded menstruation.

2. They ought not to be given to females who have a tendency to abort, or to those suffering from menorrhagia or metrorrhagia.

3. Their administration must be carefully watched in cases of pregnancy, and they must be immediately suspended on the least sign of pain or labor.—*Australasian Med. Gazette.*

SURGERY.

Europhen in Minor Surgery.

As an antiseptic and cicatrisant in cases of minor surgery, Europhen has been favorably commented upon by a large number of authors, and Dr. Doermer has recently added his testimony as to its value as a serviceable remedy to the general practitioner. As he has had occasion to employ it in over eighty cases his observations are entitled to more than ordinary considerations. Extensive use was made of Europhen in the form of the powder in cases of fistulas after extirpation of glands, fresh incised wounds, abrasions of the skin, abscesses, ulcers of the leg. In the form of a 3 per cent. ointment it was used in the treatment of contusions, burns, glandular enlargements, and in the after treatment of operation wounds. In combination with boric acid 1 to 3, it was employed in middle ear catarrhs and ulcers of the leg, and as a 5 to 10 per cent. gauze in all kinds of recent wounds, abscesses, furuncles and carbuncles, phlegmons, glandular suppuration, etc. In all these cases the author had formerly been in the habit of using iodoform, and he found it difficult to discard this long-tried remedy and resort to another. The results of his change, however, were highly satisfactory. In almost all the cases he was able to completely dispense with iodoform, and never observed eczema, or other cutaneous eruptions during the use of Europhen. The fact that the latter remedy is devoid of the penetrating odor of iodoform is also greatly in its favor, while symptoms of poisoning were never observed even when it was employed in large quantities. The good qualities of Europhen are that it forms an adhesive covering over wounds and that it exerts an antiseptic influence due to the liberation of iodine. Of course, a few instances occurred in which suppuration of wounds was not arrested under the use of Europhen, but this happens frequently enough under the iodoform treatment. The application of a 5 to 10 per cent. Europhen gauze appeared to be the most serviceable dressing for wounds, both fresh and suppurating. The powder also proved very effective in cases of markedly secreting wounds; and in ulcers of the leg, Europhen exerted an actually specific influence, and produced healing much more rapidly than under all forms of other treatment. In cases where iodoform gave rise to irritation of the skin in this class of cases Europhen proved extremely serviceable, applied pure or mixed with boric acid 1 to 3. Inasmuch as it produces rapid healing in cases of fistula, resulting from extirpation of the glands and other scrofulous or tuberculous foci, Doermer suggests the use of emulsions of Europhen with glycerine, ether or alcohol, for the treatment of cold abscesses or tuberculous diseases of the joints. Among all the above mentioned diseases he is unable to find one in which the remedy proved an absolute failure, and hence he considers himself warranted in counting it among the most valuable additions to the materia medica.